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MASSMUTUAL PARTICIPATION INVESTORS
Form N-CSR
March 07, 2011

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED MANAGEMENT
INVESTMENT COMPANIES

Investment Company Act file number 811-5531

MassMutual Participation Investors

(Exact name of registrant as specified in charter)

1500 Main Street, P.O. Box 15189, Springfield, MA 01115-5189

(Address of principal executive offices) (Zip code)

Christopher A. DeFrancis, Vice President and Secretary
1500 Main Street, Suite 2800, P.O. Box 15189, Springfield, MA 01115-5189

(Name and address of agent for service)

Registrant's telephone number, including area code: 413-226-1000

Date of fiscal year end: 12/31

Date of reporting period: 12/31/10

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to Secretary, Securities and Exchange Commission, 110 F Street NE, Washington, DC 20549. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. ss. 3507.

ITEM 1. REPORT TO STOCKHOLDERS.

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Attached hereto is the annual shareholder report transmitted to shareholders pursuant to Rule 30e-1 of the Investment Company Act of 1940, as amended.

[LOGO] MASSMUTUAL PARTICIPATION INVESTORS
2010 ANNUAL REPORT

MASSMUTUAL PARTICIPATION INVESTORS
c/o Babson Capital Management LLC
1500 Main Street
P.O. Box 15189
Springfield, Massachusetts 01115-5189
(413) 226-1516
<http://www.BabsonCapital.com/mpv>

ADVISER
Babson Capital Management LLC
1500 Main Street, P.O. Box 15189
Springfield, Massachusetts 01115-5189

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM
KPMG LLP
Boston, Massachusetts 02110

COUNSEL TO THE TRUST
Ropes & Gray LLP
Boston, Massachusetts 02110

CUSTODIAN

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Citibank, N.A.
New York, New York 10043

TRANSFER AGENT & REGISTRAR
Shareholder Financial Services, Inc.
P.O. Box 173673
Denver, Colorado 80217-3673
1-800-647-7374

MPV
Listed
NYSE

PROXY VOTING POLICIES & PROCEDURES; PROXY VOTING RECORD

The Trustees of MassMutual Participation Investors (the "Trust") have delegated proxy voting responsibilities relating to the voting of securities held by the Trust to Babson Capital Management LLC ("Babson Capital"). A description of Babson Capital's proxy voting policies and procedures is available (1) without charge, upon request, by calling, toll-free 1-866-399-1516; (2) on the Trust's website at <http://www.BabsonCapital.com/mpv>; and (3) on the U.S. Securities and Exchange Commission's ("SEC") website at <http://www.sec.gov>. Information regarding how the Trust voted proxies relating to portfolio securities during the most recent 12-month period ended June 30, 2010 is available (1) on the Trust's web-site at <http://www.BabsonCapital.com/mpv>; and (2) on the SEC's website at <http://www.sec.gov>.

FORM N-Q

The Trust files its complete schedule of portfolio holdings with the SEC for the first and third quarters of each fiscal year on Form N-Q. This information is available (i) on the SEC's website at <http://www.sec.gov>; and (ii) at the SEC's Public Reference Room in Washington, DC (which information on their operation may be obtained by calling 1-800-SEC-0330). A complete schedule of portfolio holdings as of each quarter-end is available on the Trust's website at <http://www.BabsonCapital.com/mpv> or upon request by calling, toll-free, 1-866-399-1516.

OFFICERS OF THE TRUST

Clifford M. Noreen
Chairman

Michael L. Klofas
President

Michael P. Hermsen
Vice President

Richard E. Spencer, II
Vice President

Jill A. Fields
Vice President

James M. Roy
Vice President
& Chief Financial
Officer

Christopher A. DeFrancis

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Vice President &
Secretary

MASSMUTUAL PARTICIPATION INVESTORS

MASSMUTUAL PARTICIPATION INVESTORS IS A CLOSED-END INVESTMENT COMPANY, FIRST OFFERED TO THE PUBLIC IN 1988, WHOSE SHARES ARE TRADED ON THE NEW YORK STOCK EXCHANGE.

INVESTMENT OBJECTIVE & POLICY

MassMutual Participation Investors (the "Trust") is a closed-end investment company, first offered to the public in 1988, whose shares are traded on the New York Stock Exchange under the trading symbol "MPV". The Trust's share price can be found in the financial section of most newspapers as "MassPrt" or "MassMuPrt" under either the New York Stock Exchange listings or Closed-End Fund listings.

The Trust's investment objective is to maximize total return by providing a high level of current income, the potential for growth of income, and capital appreciation. The Trust's principal investments are privately placed, below-investment grade, long-term debt obligations purchased directly from their issuers, which tend to be smaller companies. At least half of these investments normally include equity features such as warrants, conversion rights, or other equity features that provide the Trust with the opportunity to realize capital gains. The Trust will also invest in publicly traded debt securities (including high yield securities), again with an emphasis on those with equity features, and in convertible preferred stocks and, subject to certain limitations, readily marketable equity securities. Below-investment grade or high yield securities have predominantly speculative characteristics with respect to the capacity of the issuer to pay interest and repay principal. In addition, the Trust may temporarily invest in high quality, readily marketable securities.

Babson Capital Management LLC ("Babson Capital") manages the Trust on a total return basis. The Trust distributes substantially all of its net income to shareholders each year. Accordingly, the Trust pays dividends to shareholders quarterly in January, May, August, and November. All registered shareholders are automatically enrolled in the Dividend Reinvestment and Cash Purchase Plan unless cash distributions are requested.

In this report you will find a complete listing of the Trust's holdings. We encourage you to read this section carefully for a better understanding of the Trust. We cordially invite all shareholders to attend the Trust's Annual Meeting of Shareholders, which will be held on April 15, 2011 at 1:30 P.M. in Springfield, Massachusetts.

(Continued)

MassMutual Participation Investors 2010 ANNUAL REPORT

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PORTFOLIO COMPOSITION AS OF 12/31/10*

[PIE CHART APPEARS HERE]

| | |
|--|-----------------------------------|
| Private / 144A High Yield Debt 69.1% | Public High Yield Debt 8.8% |
| Private / Restricted Equity 12.0% | Public Equity 0.1% |
| Cash & Short-Term | |

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Investments
10.0%

TOTAL ANNUAL PORTFOLIO RETURN (AS OF 12/31 EACH YEAR)*

[BAR CHART APPEARS HERE]

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | |
|----------------------------------|-------|------|--------|-------|-------|-------|-------|-------|--------|-------|-------|--|
| MassMutu (Based o value wi | 8.11 | 3.41 | 5.70 | 23.72 | 25.14 | 22.51 | 18.64 | 9.95 | -6.01 | 7.60 | 18.71 | |
| Russell | -3.03 | 2.49 | -20.48 | 47.25 | 18.33 | 4.55 | 18.37 | -1.57 | -33.79 | 27.17 | 26.86 | |
| Barclays Corporat | -5.86 | 5.28 | -1.41 | 28.97 | 11.13 | 2.74 | 11.85 | 1.87 | -26.16 | 58.21 | 15.13 | |

* Data for MassMutual Participation Investors (the "Trust") represents portfolio returns based on change in the Trust's net asset value assuming the reinvestment of all dividends and distributions. These returns differ from the total investment return based on market value of the Trust's shares due to the difference between the Trust's net asset value and the market value of its shares outstanding (see page 12 for total investment return based on market value). Past performance is no guarantee of future results.

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TO OUR SHAREHOLDERS

I am pleased to share with you the Trust's Annual Report for the year ended December 31, 2010.

PORTFOLIO PERFORMANCE

The Trust's net total portfolio rate of return for 2010 was 18.71%, as measured by the change in net asset value and assuming the reinvestment of all dividends and distributions. The Trust's total net assets were \$119,540,235, or \$11.89 per share, as of December 31, 2010. This compares to \$108,925,375, or \$10.91 per share, as of December 31, 2009. The Trust paid a quarterly dividend of 25 cents per share for each of the four quarters of 2010. Including the fourth quarter dividend paid in January 2011, total dividends for the year were \$1.00 per share, which was unchanged from the prior year. Net investment income for the year was \$1.02 per share, including \$0.04 per share of non-recurring income, which was up 9% from \$0.94 per share in 2009. Investors took note of the strong performance in 2010 as the Trust's stock price increased 13.8% during the year, from \$12.20 as of December 31, 2009 to \$13.88 as of December 31, 2010.

The table below lists the average annual net returns of the Trust's portfolio, based on the change in net assets and assuming the reinvestment of all dividends and distributions. Average annual returns of the Barclays Capital U.S. Corporate High Yield Index and the Russell 2000 Index for the 1, 3, 5 and 10 years ended December 31, 2010 are provided for comparison purposes only.

| | THE TRUST | BARCLAYS CAPITAL U.S. CORPORATE HIGH YIELD INDEX | RUSSELL 2000 INDEX |
|-----------------|-----------|--|-----------------------|
| ----- 1 Year | 18.71% | 15.13% | 26.86% |

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| | | | |
|----------|--------|--------|-------|
| 3 Years | 6.28% | 10.38% | 2.22% |
| 5 Years | 9.39% | 8.91% | 4.47% |
| 10 Years | 12.50% | 8.88% | 6.33% |

Past performance is no guarantee of future results.

MassMutual Participation Investors 2010 ANNUAL REPORT

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MARKET CONDITIONS

The year 2010 opened with nervous investors unable to shake their fears of a double-dip recession even though the global economy entered its second year of recovery. Despite these worries, investors stayed the course and markets continued to improve until mid-spring, when financial troubles facing several European nations raised concerns around the globe. As markets stalled, governments and central banks once again stepped to the fore to help restore investor confidence. The U.S. economy was further bolstered at year-end by extensions of investor-friendly tax policies, helping to close the year on a strong note. The Dow Jones Industrial Average gained 11% for the year to 11,577, a level not seen since September 2008. The market's strong performance occurred in the latter part of the year, as the Dow rose 18.5% in the final six months, and 7.3% in the fourth quarter.

Despite the strong finish, concerns remain for the U.S. economy. The unemployment rate, according to the U.S. Department of Labor, ended 2010 at 9.8%, down slightly from 10% in 2009, but still stubbornly high. Inflation was just under 1.5%, down significantly from 2.7% in 2009, but history has shown that significant fiscal stimulus often leads to inflation. The current fiscal policy and the growing national debt also worry investors and companies alike about potential tax hikes, which might be required at some point to pay principal and interest on the debt. The value of the dollar improved overall versus the currencies of the main U.S. trading partners in 2010, although much of that was due to the negative impact on the euro given financial troubles for several European countries; the dollar's performance against other currencies was mixed. One welcome sign was corporate credit defaults, which plummeted in 2010. Moody's Investors Service global issuer-weighted speculative grade default rate was 3.1% in 2010, down dramatically from 12.5% in 2009. The current rate is more in line with its historical average of 5%, and Moody's predicts defaults will fall even lower - to below 2% - in 2011.

PORTFOLIO ACTIVITY

New investment activity for the Trust was very sporadic during 2010. In the first three quarters of the year, the Trust completed eight new private placement investments. In the fourth quarter, the Trust completed 11 new investments, including seven in the month of December alone. This high level of transaction volume in the fourth quarter was driven mostly by concerns about potential tax law changes, although pent-up demand from private equity and corporate buyers also contributed. For the full year 2010, the Trust closed 19 new private placement investments and eight add-on investments in existing portfolio companies. Total private placement investment purchases in 2010 were \$18,434,897. In 2009, the Trust closed ten new private placement transactions and seven add-on investments aggregating \$13,887,651.

We are certainly pleased with the high level of investment activity in 2010 as this should have a positive impact on net investment income in the years ahead. We are also very pleased to report that leverage multiples, though they increased as the year progressed, remained reasonable despite the increased level of market activity. Pricing and return expectations on our new investments

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were stable throughout the year. All in all, market conditions in 2010 were favorable for new investment activity.

New private placement investments completed during 2010 were: Associated Diversified Services; Barcodes Group, Inc.; Eatem Holding Company; F F C Holding Corporation; F G I Equity LLC; F H Equity LLC; G C Holdings; J A C Holding Enterprises, Inc.; K P H I Holdings, Inc.; Manhattan Beachwear Holding Company; MBWS Ultimate Holdco, Inc.; Motion Controls Holding; Nicoat Acquisitions LLC; O E C Holding Corporation; P P T Holdings LLC; Snacks Parent Corporation; Sunrise Windows Holding Co.; Wheaton Holding Corporation; and Whitcraft Holdings, Inc. In addition, the Trust added to existing private placement investments in A S C Group, Inc.; F C X Holdings Corporation; Manhattan Beachwear Holding Company; Northwest Mailing Services, Inc.;

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P K C Holding Corporation; Pacific Consolidated Holdings LLC; Postle Aluminum Company LLC; and Savage Sports Holding, Inc. A brief description of these investments can be found in the Consolidated Schedule of Investments.

The condition of the Trust's existing portfolio of investments improved significantly during 2010. Sales and earnings for most of the Trust's portfolio companies increased in 2010, after showing a deteriorating trend for all of 2009. We also had a number of portfolio companies resume paying cash interest on their debt obligations due to their improved operating performance and liquidity position. Patience, sometimes coupled with additional equity infusions from the sponsor groups and/or the deferral of interest on debt obligations, has proven to be the right approach to helping many of these companies rebound.

We also had 12 companies exit from the Trust's portfolio during 2010. In nine of these exits, the Trust realized a significant positive return on its investment. These investments were: Dwyer Group, Inc.; ITC^Deltacom, Inc.; K-Tek Holding Corporation; Maverick Acquisition Company; PAS Holdco LLC; Tangent Rail Corporation; Transtar Holding Company; Waggin' Train Holdings LLC; and Walls Industries, Inc. We also realized on our investments in Diversco, Inc., FHS Holdings LLC, and Olympic Sales, Inc. Realization activity for the Trust's portfolio in 2010 was at its highest level since 2007.

OUTLOOK FOR 2011

The year 2011 opened with cautious optimism, as recovery continues in both the U.S. and emerging markets. Europe, however, is again focusing on those nations with troubled finances and may need to take stronger action with the debts of some. On the home front, public sector employment may take a hit as states, cities and towns deal with their budget woes. And housing remains the albatross around the neck of the U.S. economy. Home sales remain at depressed levels while the inventory of new and existing homes continues to be well above average, although down from peak levels. Delays in the foreclosure process have only exacerbated the problem.

On the positive side, U.S. companies are reporting strong profits, banks are making more loans, and consumer spending is on the upswing, although not yet enough to make a major dent in unemployment levels. The economy is expected to continue to improve, although regions vary in their respective speed of recovery. The Federal Reserve has been priming the pump along the way and government policies have been supportive of growth and job generation.

Although the buyout market is taking a breather after the hectic pace of deal activity at the end of 2010, we have begun 2011 with a reasonable backlog of new investment opportunities and an expectation that leverage and pricing conditions will continue to be favorable for the Trust. We also have a number of portfolio companies that are in various stages of a sale process. We expect that

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realization activity, which started to rebound in the fourth quarter of 2009 and accelerated through 2010, will continue to be strong in 2011.

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The Trust weathered the difficult markets of 2008 and early 2009 well, and was able to maintain its dividend level. With market conditions continuing to improve, the Trust generated strong results in 2010, and we are optimistic heading into 2011. Regardless of the market environment, however, the Trust will continue to employ the investment philosophy that has served it well since its inception: investing in companies which we believe have a strong business proposition, solid cash flow and experienced, ethical management. This philosophy, along with Babson Capital's seasoned investment-management team, positions the Trust well to meet its investment objectives and policies. As always, I would like to thank you for your continued interest in and support of MassMutual Participation Investors. I look forward to seeing you at the Trust's annual shareholder meeting in Springfield on April 15, 2011.

Sincerely,

Michael L. Klofas
 President

Cautionary Notice: Certain statements contained in this report may be "forward looking" statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date in which they are made and which reflect management's current estimates, projections, expectations or beliefs, and which are subject to risks and uncertainties that may cause actual results to differ materially. These statements are subject to change at any time based upon economic, market or other conditions and may not be relied upon as investment advice or an indication of the Trust's trading intent. References to specific securities are not recommendations of such securities, and may not be representative of the Trust's current or future investments. We undertake no obligation to publicly update forward looking statements, whether as a result of new information, future events, or otherwise.

| 2010 DIVIDENDS | RECORD DATE | NET INVESTMENT INCOME | SHORT-TERM GAINS | TAX EFFECT | LONG-TERM GAINS |
|-------------------|----------------|--------------------------|---------------------|---------------|--------------------|
| Regular | 4/26/2010 | 0.2500 | - | | - |
| | 8/2/2010 | 0.2500 | - | | - |
| | 11/1/2010 | 0.2500 | - | | - |
| | 12/31/2010 | 0.2500 | - | | - |
| | | \$ 1.0000 | \$ - | \$ 1.0000 | 0.0000 |

THE FOLLOWING TABLE SUMMARIZES THE TAX EFFECTS OF THE RELATION OF CAPITAL GAINS FOR 2010:

| | AMOUNT PER SHARE | FORM 2439 |
|--------------------------|------------------|-----------|
| 2010 Gains Retained | 0.0692 | Line 1a |
| Long-Term Gains Retained | 0.0692 | |
| Taxes Paid | 0.0242 | Line 2 * |
| Basis Adjustment | 0.0450 | ** |

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- * If you are not subject to federal capital gains tax (e.g. charitable organizations, IRAs and Keogh Plans) you may be able to claim a refund by filing Form 990-T.
- ** For federal income tax purposes, you may increase the adjusted cost basis of your shares by this amount (the excess of Line 1a over Line 2).

| ANNUAL DIVIDEND AMOUNT PER SHARE | QUALIFIED FOR DIVIDEND RECEIVED DEDUCTION*** | | QUALIFIED DIVIDENDS**** | | INTEREST EARNED ON U.S. GOV'T. OBLIGATION | |
|--|---|---------------------|-------------------------|---------------------|--|---------------------|
| | PERCENT | AMOUNT PER SHARE | PERCENT | AMOUNT PER SHARE | PERCENT | AMOUNT PER SHARE |
| \$1.00 | 2.8404% | 0.0283 | 2.8404% | 0.0283 | 0% | 0.0000 |

*** Not available to individual shareholders

**** Qualified dividends are reported in Box 1b on IRS Form 1099-Div for 2010

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FINANCIAL REPORT

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CONSOLIDATED STATEMENT OF ASSETS AND LIABILITIES
DECEMBER 31, 2010

ASSETS:

Investments

(See Consolidated Schedule of Investments)
Corporate restricted securities at fair value

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| | |
|--|---|
| (Cost - \$117,988,681) | \$ 107,507,131 |
| Corporate restricted securities at market value | |
| (Cost - \$1,126,931) | 1,161,608 |
| Corporate public securities at market value | |
| (Cost - \$11,559,989) | 11,951,028 |
| Short-term securities at amortized cost | 10,049,511 |
| | ----- |
| Total investments (Cost - \$140,725,112) | 130,669,278 |
| Cash | 3,331,474 |
| Interest receivable | 1,329,830 |
| | ----- |
| TOTAL ASSETS | 135,330,582 |
| | ----- |
| LIABILITIES: | |
| Dividend payable | 2,512,568 |
| Investment advisory fee payable | 268,592 |
| Note payable | 12,000,000 |
| Interest payable | 88,933 |
| Accrued expenses | 175,336 |
| Accrued taxes payable | 463,325 |
| Deferred tax liability | 264,465 |
| Other payables | 17,128 |
| | ----- |
| TOTAL LIABILITIES | 15,790,347 |
| | ----- |
| TOTAL NET ASSETS | \$ 119,540,235 |
| | ===== |
| NET ASSETS: | |
| Common shares, par value \$.01 per share | \$ 100,503 |
| Additional paid-in capital | 93,832,939 |
| Retained net realized gain on investments, prior years | 32,871,737 |
| Undistributed net investment income | 1,608,268 |
| Accumulated net realized gain on investments | 1,447,087 |
| Net unrealized depreciation of investments | (10,320,299) |
| | ----- |
| TOTAL NET ASSETS | \$ 119,540,235 |
| | ===== |
| COMMON SHARES ISSUED AND OUTSTANDING (14,785,750 AUTHORIZED) | 10,050,271 |
| | ===== |
| NET ASSET VALUE PER SHARE | \$ 11.89 |
| | ===== |
| See Notes to Consolidated Financial Statements | |
| ----- | |
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| CONSOLIDATED STATEMENT OF OPERATIONS | |
| FOR THE YEAR ENDED DECEMBER 31, 2010 | |
| INVESTMENT INCOME: | |
| Interest | \$ 12,311,210 |
| Dividends | 284,743 |
| Other | 42,707 |
| | ----- |
| TOTAL INVESTMENT INCOME | 12,638,660 |
| | ----- |
| EXPENSES: | |
| Investment advisory fees | 1,050,151 |
| Interest | 696,000 |

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| | |
|---|---------------|
| Trustees' fees and expenses | 222,153 |
| Professional fees | 149,500 |
| Reports to shareholders | 92,000 |
| Custodian fees | 22,000 |
| Transfer agent/registrar's expenses | 21,500 |
| Other | 118,928 |
| | ----- |
| TOTAL EXPENSES | 2,372,232 |
| | ----- |
| INVESTMENT INCOME - NET | 10,266,428 |
| | ----- |
| NET REALIZED AND UNREALIZED GAIN ON INVESTMENTS: | |
| Net realized gain on investments before taxes | 1,707,746 |
| Income tax expense | (528,092) |
| | ----- |
| Net realized gain on investments after taxes | 1,179,654 |
| | ----- |
| Net change in unrealized depreciation of investments before taxes | 8,545,462 |
| Net change in deferred income tax expense | (179,502) |
| | ----- |
| Net change in unrealized depreciation of investments after taxes | 8,365,960 |
| | ----- |
| NET GAIN ON INVESTMENTS | 9,545,614 |
| | ----- |
| NET INCREASE IN NET ASSETS RESULTING FROM OPERATIONS | \$ 19,812,042 |
| | ===== |

See Notes to Consolidated Financial Statements

MassMutual Participation Investors 2010 ANNUAL REPORT

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CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED DECEMBER 31, 2010

| | |
|---|----------------|
| NET INCREASE IN CASH: | |
| Cash flows from operating activities: | |
| Purchases/Proceeds/Maturities from short-term portfolio securities, net | \$ (2,516,100) |
| Purchases of portfolio securities | (31,361,604) |
| Proceeds from disposition of portfolio securities | 33,738,236 |
| Interest, dividends and other income received | 11,842,095 |
| Interest expense paid | (696,000) |
| Operating expenses paid | (1,675,204) |
| Income taxes paid | (100,767) |
| | ----- |
| NET CASH PROVIDED BY OPERATING ACTIVITIES | 9,230,656 |
| | ----- |
| Cash flows from financing activities: | |
| Cash dividends paid from net investment income | (10,009,346) |
| Receipts for shares issued on reinvestment of dividends | 828,922 |
| | ----- |
| NET CASH USED FOR FINANCING ACTIVITIES | (9,180,424) |
| | ----- |
| NET INCREASE IN CASH | 50,232 |
| Cash - beginning of year | 3,281,242 |
| | ----- |
| CASH - END OF YEAR | \$ 3,331,474 |
| | ===== |

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RECONCILIATION OF NET INCREASE IN NET ASSETS TO NET CASH PROVIDED BY OPERATING ACTIVITIES:

| | | |
|--|----|--------------|
| NET INCREASE IN NET ASSETS RESULTING FROM OPERATIONS | \$ | 19,812,042 |
| | | ----- |
| Increase in investments | | (11,427,217) |
| Decrease in interest receivable | | 192,365 |
| Decrease in receivable for investments sold | | 45,613 |
| Increase in investment advisory fee payable | | 23,510 |
| Increase in accrued expenses | | 18,509 |
| Increase in accrued taxes payable | | 606,827 |
| Decrease in other payables | | (40,993) |
| | | ----- |
| TOTAL ADJUSTMENTS TO NET ASSETS FROM OPERATIONS | | (10,581,386) |
| | | ----- |
| NET CASH PROVIDED BY OPERATING ACTIVITIES | \$ | 9,230,656 |
| | | ===== |

See Notes to Consolidated Financial Statements

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CONSOLIDATED STATEMENTS OF CHANGES IN NET ASSETS FOR THE YEARS ENDED DECEMBER 31, 2010 AND 2009

| | 2010 | 2009 |
|---|----------------|----------------|
| | ----- | ----- |
| INCREASE (DECREASE) IN NET ASSETS: | | |
| Operations: | | |
| Investment income - net | \$ 10,266,428 | \$ 9,375,528 |
| Net realized gain on investments after taxes | 1,179,654 | 1,012,575 |
| Net change in unrealized depreciation of investments after taxes | 8,365,960 | (2,299,878) |
| | ----- | ----- |
| Net increase in net assets resulting from operations | 19,812,042 | 8,088,225 |
| Increase from common shares issued on reinvestment of dividends | | |
| Common shares issued (2010 - 67,032; 2009 - 55,996) | 828,922 | 616,488 |
| Dividends to shareholders from: | | |
| Net investment income (2010 - \$1.00 per share; 2009 - \$1.00 per share) | (10,026,104) | (9,955,268) |
| | ----- | ----- |
| TOTAL INCREASE (DECREASE) IN NET ASSETS | 10,614,860 | (1,250,555) |
| NET ASSETS, BEGINNING OF YEAR | 108,925,375 | 110,175,930 |
| | ----- | ----- |
| NET ASSETS, END OF YEAR (including undistributed net investment income of \$1,608,268 and \$1,272,124 respectively) | \$ 119,540,235 | \$ 108,925,375 |
| | ===== | ===== |

See Notes to Consolidated Financial Statements

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CONSOLIDATED SELECTED FINANCIAL HIGHLIGHTS

SELECTED DATA FOR EACH SHARE OF BENEFICIAL INTEREST OUTSTANDING:

| | FOR THE YEARS ENDED DECEMBER 31, | | | | |
|--|----------------------------------|-----------|-----------|-----------|-----------|
| | 2010 | 2009 | 2008 | 2007 | 2006 |
| Net asset value: | | | | | |
| Beginning of year | \$ 10.91 | \$ 11.10 | \$ 12.84 | \$ 12.90 | \$ 12.90 |
| Net investment income (a) | 1.02 | 0.94 | 1.08 | 1.23 | 1.23 |
| Net realized and unrealized gain (loss) on investments | 0.95 | (0.13) | (1.82) | (0.05) | 0.00 |
| Total from investment operations | 1.97 | (0.81) | (0.74) | 1.18 | 1.23 |
| Dividends from net investment income to common shareholders | (1.00) | (1.00) | (1.00) | (1.23) | (1.23) |
| Dividends from net realized gain on investments to common shareholders | - | - | - | (0.02) | (0.02) |
| Increase from dividends reinvested | 0.01 | 0.00 (b) | 0.00 (b) | 0.01 | 0.01 |
| Total dividends | (0.99) | (1.00) | (1.00) | (1.24) | (1.24) |
| Net asset value: End of year | \$ 11.89 | \$ 10.91 | \$ 11.10 | \$ 12.84 | \$ 12.90 |
| Per share market value: | | | | | |
| End of year | \$ 13.88 | \$ 12.20 | \$ 9.05 | \$ 13.18 | \$ 14.00 |
| Total investment return | | | | | |
| Net asset value (c) | 18.71% | 7.60% | (6.01%) | 9.95% | 18.71% |
| Market value (c) | 22.94% | 40.86% | (25.36%) | (1.30%) | 16.25% |
| Net assets (in millions): | | | | | |
| End of year | \$ 119.54 | \$ 108.93 | \$ 110.18 | \$ 126.63 | \$ 126.63 |
| Ratio of operating expenses to average net assets | 1.46% | 1.41% | 1.33% | 1.36% | 1.36% |
| Ratio of interest expense to average net assets | 0.61% | 0.63% | 0.58% | 0.56% | 0.56% |
| Ratio of income tax expense to average net assets (d) | 0.46% | 0.00% | 0.00% | 0.48% | 2.53% |
| Ratio of total expenses before custodian fee reduction to average net assets (d) | 2.53% | 2.04% | 1.91% | 2.40% | 4.42% |
| Ratio of net expenses after custodian fee reduction to average net assets (d) | 2.53% | 2.04% | 1.91% | 2.40% | 4.42% |
| Ratio of net investment income to average net assets | 8.96% | 8.55% | 8.74% | 9.32% | 8.96% |
| Portfolio turnover | 27% | 23% | 32% | 33% | |

(a) Calculated using average shares.

(b) Rounds to less than \$0.01 per share.

(c) Net asset value return represents portfolio returns based on change in the Trust's net asset value less all dividends and distributions which differs from the total investment return based on the difference between the Trust's net asset value and the market value of its shares outstanding at the end of future results.

(d) As additional information, this ratio is included to reflect the taxes paid on retained long-term capital gains netted against realized capital gains in the Statement of Operations. The taxes paid are treated as a credit for the taxes paid is passed on to shareholders.

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Senior borrowings:

| | | | | | | | | | | |
|--|----|-----------|----|-----------|----|-----------|----|-----------|----|-----------|
| Total principal amount (in millions) | \$ | 12 | \$ | 12 | \$ | 12 | \$ | 12 | \$ | 12 |
| Asset coverage per \$1,000 of indebtedness | | \$ 10,962 | | \$ 10,077 | | \$ 10,181 | | \$ 11,552 | | \$ 11,552 |

See Notes to Consolidated Financial Statements

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CONSOLIDATED SCHEDULE OF INVESTMENTS

December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|---|---|---------------------|
| CORPORATE RESTRICTED SECURITIES - 90.91%: (A) | | |

PRIVATE PLACEMENT INVESTMENTS - 89.93%

A E Company, Inc.

A designer and manufacturer of machined parts and assembly structures for the commercial and military markets.

| | | | | |
|--|----|---------|--------------|----------|
| 11% Senior Secured Note due 2015 | \$ | 807,692 | | * |
| 13% Senior Subordinated Note due 2016 | \$ | 807,693 | | 11/10/09 |
| Common Stock (B) | | | 184,615 shs. | 11/10/09 |
| Warrant, exercisable until 2019, to purchase common stock at \$.01 per share (B) | | | 92,308 shs. | 11/10/09 |

* 11/10/09 and 11/18/09.

A H C Holding Company, Inc.

A designer and manufacturer of boilers and water heaters for the commercial sector.

| | | | | |
|---------------------------------------|----|-----------|-------------|----------|
| 15% Senior Subordinated Note due 2015 | \$ | 1,352,743 | | 11/21/07 |
| Limited Partnership Interest (B) | | | 12.26% int. | 11/21/07 |

A S A P Industries LLC

A designer and manufacturer of components used on oil and natural gas wells.

| | | | | |
|--|----|---------|----------|----------|
| 12.5% Senior Subordinated Note due 2015 | \$ | 450,500 | | 12/31/08 |
| Limited Liability Company Unit Class A-2 (B) | | | 677 uts. | 12/31/08 |
| Limited Liability Company Unit Class A-3 (B) | | | 608 uts. | 12/31/08 |

A S C Group, Inc.

A designer and manufacturer of high reliability encryption equipment, communications products, components primarily for the military and aerospace sectors.

| | | | | |
|--|----|-----------|------------|----------|
| 12.75% Senior Subordinated Note due 2016 | \$ | 1,227,273 | | 10/09/09 |
| Limited Liability Company Unit Class A (B) | | | 2,186 uts. | * |
| Limited Liability Company Unit Class B (B) | | | 1,473 uts. | 10/09/09 |

* 10/09/09 and 10/27/10.

A W X Holdings Corporation

A provider of aerial equipment rental, sales and repair services to non-residential construction operating in the State of Indiana.

| | | | | |
|--|----|---------|-------------|----------|
| 10.5% Senior Secured Term Note due 2014 (D) | \$ | 420,000 | | 05/15/08 |
| 13% Senior Subordinated Note due 2015 (D) | \$ | 420,000 | | 05/15/08 |
| Common Stock (B) | | | 60,000 shs. | 05/15/08 |
| Warrant, exercisable until 2015, to purchase | | | | |

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common stock at \$.01 per share (B)

21,099 shs. 05/15/08

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
 December 31, 2010

| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|--|
| | | |
| Advanced Technologies Holdings A provider of factory maintenance services to industrial companies. 15% Senior Subordinated Note due 2013 Preferred Stock (B) | \$ 1,181,702 546 shs. | 12/27/07 12/27/07 |
| | | |
| Aero Holdings, Inc. A provider of geospatial services to corporate and government clients. 10.5% Senior Secured Term Note due 2014 14% Senior Subordinated Note due 2015 Common Stock (B) Warrant, exercisable until 2015, to purchase common stock at \$.01 per share (B) | \$ 810,000 \$ 720,000 150,000 shs. 37,780 shs. | 03/09/07 03/09/07 03/09/07 03/09/07 |
| | | |
| All Current Holding Company A specialty re-seller of essential electrical parts and components primarily serving wholesale di 12% Senior Subordinated Note due 2015 Common Stock (B) Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | \$ 603,697 713 shs. 507 shs. | 09/26/08 09/26/08 09/26/08 |
| | | |
| American Hospice Management Holding LLC A for-profit hospice care provider in the United States. 12% Senior Subordinated Note due 2013 Preferred Class A Unit (B) Preferred Class B Unit (B) Common Class B Unit (B) Common Class D Unit (B) | \$ 1,687,503 1,706 uts. 808 uts. 16,100 uts. 3,690 uts. | * ** 06/09/08 01/22/04 09/12/06 |
| * 01/22/04 and 06/09/08. ** 01/22/04 and 09/12/06. | | |
| | | |
| Apex Analytix Holding Corporation A provider of audit recovery and fraud detection services and software to commercial and retail b 12.5% Senior Subordinated Note due 2014 Preferred Stock Series B (B) Common Stock (B) | \$ 1,012,500 1.623 shs. 723 shs. | 04/28/09 04/28/09 04/28/09 |

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MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| CORPORATE RESTRICTED SECURITIES:(A) (Continued) | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|---------------------|
| | ----- | ----- |
| Arrow Tru-Line Holdings, Inc. | | |
| A manufacturer of hardware for residential and commercial overhead garage doors in North America. | | |
| 12% Senior Subordinated Note due 2012 | \$ 984,209 | 05/18/05 |
| Preferred Stock (B) | 33 shs. | 10/16/09 |
| Common Stock (B) | 263 shs. | 05/18/05 |
| Warrant, exercisable until 2012, to purchase common stock at \$.01 per share (B) | 69 shs. | 05/18/05 |
| | | |
| Associated Diversified Services | | |
| A provider of routine maintenance and repair services primarily to electric utility companies pre distribution lines. | | |
| 10% Senior Secured Term Note due 2016 (C) | \$ 332,000 | 09/30/10 |
| 13% Senior Subordinated Note due 2017 | \$ 332,000 | 09/30/10 |
| Limited Liability Company Unit Class B (B) | 36,000 uts. | 09/30/10 |
| Limited Liability Company Unit Class B OID (B) | 27,520 uts. | 09/30/10 |
| | | |
| Barcodes Group, Inc. | | |
| A distributor and reseller of automatic identification and data capture equipment, including mobi point-of-sale systems, labels, and accessories. | | |
| 13.5% Senior Subordinated Note due 2016 | \$ 640,283 | 07/27/10 |
| Preferred Stock (B) | 13 shs. | 07/27/10 |
| Common Stock Class A (B) | 44 shs. | 07/27/10 |
| Warrant, exercisable until 2020, to purchase common stock at \$.01 per share (B) | 8 shs. | 07/27/10 |
| | | |
| Bravo Sports Holding Corporation | | |
| A designer and marketer of niche branded consumer products including canopies, trampolines, in-li urethane wheels. | | |
| 12.5% Senior Subordinated Note due 2014 | \$ 1,207,902 | 06/30/06 |
| Preferred Stock Class A (B) | 465 shs. | 06/30/06 |
| Common Stock (B) | 1 sh. | 06/30/06 |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | 164 shs. | 06/30/06 |
| | | |
| C D N T, Inc. | | |
| A value-added converter and distributor of specialty pressure sensitive adhesives, foams, films, 10.5% Senior Secured Term Note due 2014 | | |
| 12.5% Senior Subordinated Note due 2015 | \$ 375,436 | 08/07/08 |
| Common Stock (B) | \$ 429,070 | 08/07/08 |
| Warrant, exercisable until 2018, to purchase | 41,860 shs. | 08/07/08 |

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common stock at \$.01 per share (B)

32,914 shs. 08/07/08

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
 December 31, 2010

| CORPORATE RESTRICTED SECURITIES:(A) (Continued) | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|--|--|
| | ----- | ----- |
| Capital Specialty Plastics, Inc. A producer of desiccant strips used for packaging pharmaceutical products. Common Stock (B) * 12/30/97 and 05/29/99. | 55 shs. | * |
| Clough, Harbour and Associates An engineering service firm that is located in Albany, NY. 12.25% Senior Subordinated Note due 2015 Preferred Stock (B) | \$ 1,270,588 147 shs. | 12/02/08 12/02/08 |
| Coeur, Inc. A producer of proprietary, disposable power injection syringes. 12% Senior Subordinated Note due 2016 Common Stock (B) Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | \$ 642,857 321 shs. 495 shs. | 10/10/08 10/10/08 10/10/08 |
| Connecticut Electric, Inc. A supplier and distributor of electrical products sold into the retail and wholesale markets. 10% Senior Subordinated Note due 2014 (D) Limited Liability Company Unit Class A (B) Limited Liability Company Unit Class C (B) Limited Liability Company Unit Class D (B) Limited Liability Company Unit Class E (B) | \$ 771,051 82,613 uts. 59,756 uts. 671,525 uts. 1,102 uts. | 01/12/07 01/12/07 01/12/07 05/03/10 05/03/10 |
| Connor Sport Court International, Inc. A designer and manufacturer of outdoor and indoor synthetic sports flooring and other temporary f Preferred Stock Series B-2 (B) Preferred Stock Series C (B) Common Stock (B) Limited Partnership Interest (B) | 9,081 shs. 4,757 shs. 380 shs. 6.88% int. | 07/05/07 07/05/07 07/05/07 * |
| *08/12/04 and 01/14/05. | | |
| CorePharma LLC A manufacturer of oral dose generic pharmaceuticals targeted at niche applications. 14.5% Senior Subordinated Note due 2016 | \$ 1,350,000 | 08/04/05 |

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Warrant, exercisable until 2013, to purchase
common stock at \$.001 per share (B) 10 shs. 08/04/05

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|--|
| | | |
| | | |
| Crane Rental Corporation A crane rental company. 13% Senior Subordinated Note due 2015 Common Stock (B) Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | \$ 1,215,000 135,000 shs. 72,037 shs. | 08/21/08 08/21/08 08/21/08 |
| | | |
| Custom Engineered Wheels, Inc. A manufacturer of custom engineered, non-pneumatic plastic wheels and plastic tread cap tires used in products and wheelchairs. 12.5% Senior Subordinated Note due 2016 Preferred Stock PIK (B) Preferred Stock Series A (B) Common Stock (B) Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | \$ 1,155,288 156 shs. 114 shs. 38 shs. 28 shs. | 10/27/09 10/27/09 10/27/09 10/27/09 10/27/09 |
| | | |
| Davis-Standard LLC A manufacturer, assembler, and installer of a broad range of capital equipment that is used in the processing of plastic materials. 12% Senior Subordinated Note due 2014 Limited Partnership Interest (B) Warrant, exercisable until 2014, to purchase preferred stock at \$.01 per share (B) Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | \$ 978,261 0.97% int. 26 shs. 18 shs. | 10/30/06 10/30/06 10/30/06 10/30/06 |
| | | |
| Duncan Systems, Inc. A distributor of windshields and side glass for the recreational vehicle market. 10% Senior Secured Term Note due 2013 13% Senior Subordinated Note due 2014 Common Stock (B) Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | \$ 231,429 \$ 488,572 102,857 shs. 32,294 shs. | 11/01/06 11/01/06 11/01/06 11/01/06 |

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E S P Holdco, Inc.

A manufacturer of power protection technology for commercial office equipment, primarily supplying network.

| | | | |
|---------------------------------------|----|-----------|----------|
| 14% Senior Subordinated Note due 2015 | \$ | 1,247,375 | 01/08/08 |
| Common Stock (B) | | 349 shs. | 01/08/08 |

MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|----|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | ----- | ----- |
| | | | |
| E X C Acquisition Corporation | | | |
| A manufacturer of pre-filled syringes and pump systems used for intravenous drug delivery. | | | |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | | 11 shs. | 06/28/04 |
| | | | |
| Eatem Holding Company | | | |
| A developer and manufacturer of savory flavor systems for soups, sauces, gravies, and other products for retail and foodservice end products. | | | |
| 12.5% Senior Subordinated Note due 2018 | \$ | 950,000 | 02/01/10 |
| Common Stock (B) | | 50 shs. | 02/01/10 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | | 119 shs. | 02/01/10 |
| | | | |
| F C X Holdings Corporation | | | |
| A distributor of specialty/technical valves, actuators, accessories, and process instrumentation high purity, and energy end markets in North America. | | | |
| 15% Senior Subordinated Note due 2015 | \$ | 1,195,885 | 10/06/08 |
| Preferred Stock Series B (B) | | 2,420 shs. | 10/06/08 |
| Preferred Stock Series A (B) | | 122 shs. | 12/30/10 |
| Common Stock (B) | | 1,625 shs. | 10/06/08 |
| | | | |
| F F C Holding Corporation | | | |
| A leading U.S. manufacturer of private label frozen novelty and ice cream products. | | | |
| 16% Senior Subordinated Note due 2017 | \$ | 836,847 | 09/27/10 |
| Limited Liability Company Units Preferred (B) | | 171 uts. | 09/27/10 |
| Limited Liability Company Units (B) | | 171 uts. | 09/27/10 |
| | | | |
| F G I Equity LLC | | | |
| A manufacturer of a broad range of filters and related products that are used in commercial, light turbine, nuclear, laboratory, clean room, hotel, educational system, and food processing settings | | | |
| 14.25% Senior Subordinated Note due 2016 | \$ | 434,211 | 12/15/10 |
| Limited Liability Company Unit Class B-1 (B) | | 65,789 uts. | 12/15/10 |
| Limited Liability Company Unit Class B-2 (B) | | 8,248 uts. | 12/15/10 |

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F H Equity LLC

A designer and manufacturer of a full line of automatic transmission filters and filtration systems
 14% Senior Subordinated Note due 2017 \$ 500,000 12/20/10
 Limited Liability Company Unit Class C (B) 1,575 uts. 12/20/10

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MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
 December 31, 2010

| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|---------------------|
| | ----- | ----- |

Flutes, Inc.

An independent manufacturer of micro fluted corrugated sheet material for the food and consumer products
 10% Senior Secured Term Note due 2013 (D) \$ 524,791 04/13/06
 14% Senior Subordinated Note due 2014 (D) \$ 317,177 04/13/06

G C Holdings

A leading manufacturer of gaming tickets, industrial recording charts, security-enabled point-of-sale and supplies.
 12.5% Senior Subordinated Note due 2017 \$ 1,000,000 10/19/10
 Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) 198 shs. 10/19/10

Golden County Foods Holding, Inc.

A manufacturer of frozen appetizers and snacks.
 16% Senior Subordinated Note due 2015 \$ 1,012,500 11/01/07
 16% PIK Note due 2015 \$ 270,394 12/31/08
 8% Series A Convertible Preferred Stock, convertible into fully diluted common shares (B) 77,643 shs. 11/01/07

H M Holding Company

A designer, manufacturer, and importer of promotional and wood furniture.
 7.5% Senior Subordinated Note due 2013 (D) \$ 362,700 10/15/09
 Preferred Stock (B) 21 shs. *
 Preferred Stock Series B (B) 1,088 shs. 10/15/09
 Common Stock (B) 180 shs. 02/10/06
 Common Stock Class C (B) 296 shs. 10/15/09
 Warrant, exercisable until 2013, to purchase common stock at \$.02 per share (B) 67 shs. 02/10/06

* 09/18/07 and 06/27/08.

Highgate Capital LLC

An acquirer of controlling or substantial interests in manufacturing and marketing entities.

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| | | |
|---|--------------|----------|
| Series A Preferred Units (B) | 0.30% int. | 07/21/94 |
| Home Decor Holding Company | | |
| A designer, manufacturer and marketer of framed art and wall decor products. | | |
| 12.5% Senior Subordinated Note due 2013 | \$ 1,081,731 | * |
| Common Stock (B) | 33 shs. | * |
| Warrant, exercisable until 2012, to purchase common stock at \$.02 per share (B) | 106 shs. | * |

* 06/30/04 and 08/19/04.

MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED) December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|---|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | |
| Hospitality Mints Holding Company | | |
| A manufacturer of individually-wrapped imprinted promotional mints. | | |
| 12% Senior Subordinated Note due 2016 | \$ 1,308,732 | 08/19/08 |
| Common Stock (B) | 251 shs. | 08/19/08 |
| Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | 65 shs. | 08/19/08 |
| Insurance Claims Management, Inc. | | |
| A third party administrator providing auto and property claim administration services for insurance | | |
| Common Stock (B) | 37 shs. | 02/27/07 |
| Warrant, exercisable until 2011, to purchase common stock at \$.01 per share (B) | 11 shs. | 02/27/07 |
| International Offshore Services LLC | | |
| A leading provider of marine transportation services, platform decommissioning, and salvage services in shallow waters of the Gulf of Mexico. | | |
| 14.25% Senior Subordinated Secured Note due 2017 | \$ 1,350,000 | 07/07/09 |
| Limited Liability Company Unit (B) | 1,647 uts. | 07/07/09 |
| J A C Holding Enterprises, Inc. | | |
| A supplier of luggage racks and accessories to the original equipment manufacturers. | | |
| 12.5% Senior Subordinated Note due 2017 | \$ 833,333 | 12/20/10 |
| Preferred Stock A (B) | 165 shs. | 12/20/10 |
| Preferred Stock B (B) | 0.05 sh. | 12/20/10 |
| Common Stock (B) | 33 shs. | 12/20/10 |
| Warrant, exercisable until 2020, to purchase common stock at \$.01 per share (B) | 12 shs. | 12/20/10 |
| Jason Partners Holdings LLC | | |

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| | | |
|---|------------|----------|
| A diversified manufacturing company serving various industrial markets. Limited Liability Company Unit (B) | 48 uts. | 09/21/10 |
| | | |
| Justrite Manufacturing Acquisition Co. | | |
| A manufacturer of safety products such as storage cabinets and containers. | | |
| 12% Senior Subordinated Note due 2011 | \$ 843,750 | 12/15/04 |
| Warrant, exercisable until 2011, to purchase common stock at \$.01 per share (B) | 594 shs. | 12/15/04 |

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MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|---|---|---------------------|
| CORPORATE RESTRICTED SECURITIES:(A) (Continued) | ----- | ----- |
| | | |
| K H O F Holdings, Inc. | | |
| A manufacturer of premium disposable tableware products serving both the food service and consumer markets. | | |
| Common Stock (B) | 116,827 shs. | 10/15/07 |
| | | |
| K N B Holdings Corporation | | |
| A designer, manufacturer and marketer of products for the custom framing market. | | |
| 15.5% Senior Subordinated Note due 2013 (D) | \$ 1,595,057 | 05/25/06 |
| Common Stock (B) | 71,053 shs. | 05/25/06 |
| Warrant, exercisable until 2013, to purchase common stock at \$.01 per share (B) | 43,600 shs. | 05/25/06 |
| | | |
| K P H I Holdings, Inc. | | |
| A manufacturer of highly engineered plastic and metal components for a diverse range of end-markets in the automotive, commercial and industrial, automotive and defense. | | |
| 15% Senior Subordinated Note due 2017 | \$ 869,565 | 12/10/10 |
| Common Stock (B) | 130,435 shs. | 12/10/10 |
| | | |
| K P I Holdings, Inc. | | |
| The largest player in the U.S. non-automotive, non-ferrous die casting segment. | | |
| 18% Senior Subordinated Note due 2014 (D) | \$ 1,194,719 | 07/16/08 |
| Convertible Preferred Stock Series C (B) | 29 shs. | 06/30/09 |
| Convertible Preferred Stock Series D (B) | 13 shs. | 09/17/09 |
| Common Stock (B) | 235 shs. | 07/15/08 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 388 shs. | * |
| | | |
| * 07/16/08 and 09/17/09. | | |
| | | |
| K W P I Holdings Corporation | | |
| A manufacturer and distributor of vinyl windows and patio doors throughout the northwestern United States. | | |
| 18% Senior Subordinated Note due 2014 (D) | \$ 1,555,404 | 03/14/07 |
| Common Stock (B) | 123 shs. | 03/13/07 |
| Warrant, exercisable until 2019, to purchase | | |

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| | | |
|---|---------|----------|
| preferred stock at \$.01 per share (B) | 71 shs. | 07/07/09 |
| Warrant, exercisable until 2017, to purchase common stock at \$.01 per share (B) | 89 shs. | 03/14/07 |

L H D Europe Holdings, Inc.
A non-carbonated beverage dispensing company focused on the food service industry.

| | | |
|------------------|---------|----------|
| Common Stock (B) | 45 shs. | 12/28/09 |
|------------------|---------|----------|

MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED) December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|---------------------|
| | | |

CORPORATE RESTRICTED SECURITIES:(A) (Continued)

M V I Holding, Inc.
A manufacturer of large precision machined metal components used in equipment which services a variety of the oil and gas, mining, and defense markets.

| | | |
|---|------------|----------|
| 13% Senior Subordinated Note due 2016 | \$ 657,795 | 09/12/08 |
| Common Stock (B) | 32 shs. | 09/12/08 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 35 shs. | 09/12/08 |

Mail Communications Group, Inc.
A provider of mail processing and handling services, lettershop services, and commercial printing.

| | | |
|---|-------------|----------|
| 12.5% Senior Subordinated Note due 2014 | \$ 516,177 | 05/04/07 |
| Limited Liability Company Unit (B) | 12,763 uts. | * |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | 1,787 shs. | 05/04/07 |

* 05/04/07 and 01/02/08.

Manhattan Beachwear Holding Company
A designer and distributor of women's swimwear.

| | | |
|---|------------|----------|
| 15% Senior Subordinated Note due 2018 | \$ 214,600 | 10/05/10 |
| 12.5% Senior Subordinated Note due 2018 | \$ 882,353 | 01/15/10 |
| Common Stock (B) | 35 shs. | 10/05/10 |
| Common Stock Class B (B) | 118 shs. | 01/15/10 |
| Warrant, exercisable until 2019, to purchase common stock at \$.01 per share (B) | 104 shs. | 01/15/10 |

MBWS Ultimate Holdco, Inc.
A provider of services throughout North Dakota that address the fluid management and related transportation services.

| | | |
|---|------------|----------|
| 12% Senior Subordinated Note due 2016 | \$ 883,721 | 09/07/10 |
| Preferred Stock Series A (B) | 1,388 shs. | 09/07/10 |
| Common Stock (B) | 153 shs. | 09/07/10 |
| Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | 386 shs. | 09/07/10 |

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MedSystems Holdings LLC

| | | |
|---|----|-------------------|
| A manufacturer of enteral feeding products, such as feeding tubes and other products related to a | | |
| 13% Senior Subordinated Note due 2015 | \$ | 622,228 08/29/08 |
| Preferred Unit (B) | | 66 uts. 08/29/08 |
| Common Unit Class A (B) | | 671 uts. 08/29/08 |
| Common Unit Class B (B) | | 250 uts. 08/29/08 |

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|---------------------|
| | | |
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | |
| MEGTEC Holdings, Inc. | | |
| A supplier of industrial and environmental products and services to a broad array of industries. | | |
| 12% Senior Subordinated Note due 2016 | \$ 1,144,068 | 09/24/08 |
| Preferred Stock (B) | 56 shs. | 09/24/08 |
| Limited Partnership Interest (B) | 0.74% int. | 09/16/08 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 18 shs. | 09/24/08 |
| MicroGroup, Inc. | | |
| A manufacturer of precision parts and assemblies, and a value-added supplier of metal tubing and industries. | | |
| 12% Senior Subordinated Note due 2013 (D) | \$ 1,421,795 | * |
| Common Stock (B) | 238 shs. | * |
| Warrant, exercisable until 2013, to purchase common stock at \$.02 per share (B) | 87 shs. | * |
| * 08/12/05 and 09/11/06. | | |
| Milwaukee Gear Company | | |
| A manufacturer of high-precision custom gears and gear drives used by original equipment manufactur industries. | | |
| 13% Senior Subordinated Note due 2014 | \$ 1,246,154 | 07/21/08 |
| Preferred Stock (B) | 139 shs. | 07/21/08 |
| Common Stock (B) | 9 shs. | 07/21/08 |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | 6 shs. | 07/21/08 |
| Momentum Holding Co. | | |
| A designer and supplier of upholstery fabric to commercial furniture manufacturers and architectu | | |
| Limited Partnership Interest (B) | 11.24% int. | 08/04/06 |
| Warrant, exercisable until 2014, to purchase common stock at \$.02 per share (B) | 586 shs. | 08/04/06 |

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Monessen Holding Corporation

A designer and manufacturer of a broad line of gas, wood, and electric hearth products and accessories

| | | |
|--|--------------|------------------|
| 14% Senior Subordinated Note due 2014 (D) | \$ 1,350,000 | 07/25/08 |
| 14% PIK Note due 2014 (D) | \$ 419,713 | 07/25/08 |
| Warrant, exercisable until 2014, to purchase common stock at \$.02 per share (B) | | 81 shs. 03/31/06 |

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
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| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|---|---|----------------------|
| CORPORATE RESTRICTED SECURITIES:(A) (Continued) | ----- | ----- |
| | | |
| Motion Controls Holdings | | |
| A manufacturer of high performance mechanical motion control and linkage products. | | |
| 14.25% Senior Subordinated Note due 2017 | \$ 910,303 | 11/30/10 |
| Limited Liability Company Unit Class B-1 (B) | 93,750 uts. | 11/30/10 |
| Limited Liability Company Unit Class B-2 (B) | 8,501 uts. | 11/30/10 |
| | | |
| NABCO, Inc. | | |
| A producer of explosive containment vessels in the United States. | | |
| 14% Senior Subordinated Note due 2014 (D) | \$ 330,882 | 02/24/06 |
| Limited Liability Company Unit (B) | 437 uts. | * |
| Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | | 68 shs. 02/24/06 |
| | | |
| * 02/24/06 and 06/22/07. | | |
| | | |
| Navis Global | | |
| A designer, manufacturer, seller and servicer of finishing machinery for the knit and woven segments | | |
| 10.75% Senior Secured Note due 2011 (D) | \$ 397,479 | 05/28/04 |
| 14% Senior Subordinated Note due 2014 (D) | \$ 764,921 | 05/28/04 |
| | | |
| Nesco Holdings Corporation | | |
| A sales and leasing company that provides equipment to the electric utility, telecommunications, and other industries | | |
| 12% Senior Secured Subordinated Note due 2015 | \$ 1,125,000 | 08/02/07 |
| Common Stock (B) | 225,000 shs. | 08/02/07 |
| Warrant, exercisable until 2015, to purchase common stock at \$.01 per share (B) | | 63,191 shs. 08/02/07 |
| | | |
| NetShape Technologies, Inc. | | |
| A manufacturer of powder metal and metal injection molded precision components used in industrial machinery | | |
| 12% Senior Subordinated Note due 2014 | \$ 867,692 | 02/02/07 |
| Limited Partnership Interest of Saw Mill PCG Partners LLC (B) | | 1.38% int. 02/01/07 |

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| | | |
|---|----------|----------|
| Limited Liability Company Unit Class D of Saw Mill PCG Partners LLC (B) | 8 uts. | |
| Limited Liability Company Unit Class D-1 of Saw Mill PCG Partners LLC (B) | 111 uts. | 09/30/09 |
| Preferred Stock Class A (B) | 1 sh. | 12/18/08 |
| Preferred Stock Class A-1 (B) | 10 shs. | 09/30/09 |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | 48 shs. | 02/02/07 |

* 12/18/08 and 09/30/09.

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|---|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | |
| Nicoat Acquisitions LLC | | |
| A manufacturer of water-based and ultraviolet coatings for high-performance graphic arts, packaging applications. | | |
| 12.5% Senior Subordinated Note due 2016 | \$ 482,759 | 11/05/10 |
| Limited Liability Company Unit Series B (B) | 17,241 uts. | 11/05/10 |
| Limited Liability Company Unit Series B - OID (B) | 34,931 uts. | 11/05/10 |
| Limited Liability Company Unit Series F (B) | 52,172 uts. | 11/05/10 |
| Northwest Mailing Services, Inc. | | |
| A producer of promotional materials for companies that use direct mail as part of their customer applications. | | |
| 12% Senior Subordinated Note due 2016 | \$ 1,492,105 | * |
| Limited Partnership Interest (B) | 1,7240 uts. | * |
| Warrant, exercisable until 2019, to purchase common stock at \$.01 per share (B) | 2,605 shs. | * |
| * 07/09/09 and 08/09/10. | | |
| Nyloncraft, Inc. | | |
| A supplier of engineered plastic components for the automotive industry. | | |
| 10% Senior Secured Note due 2012 | \$ 464,286 | 01/28/02 |
| 15% Senior Subordinated Note due 2012 (D) | \$ 285,714 | 01/28/02 |
| Convertible Preferred Stock A (B) | 571 shs. | 01/28/02 |
| Common Stock (B) | 178,571 shs. | 01/28/02 |
| Warrant, exercisable until 2012, to purchase common stock at \$.01 per share (B) | 138,928 shs. | 01/28/02 |
| O E C Holding Corporation | | |
| A provider of elevator maintenance, repair and modernization services. | | |
| 13% Senior Subordinated Note due 2017 | \$ 444,445 | 06/04/10 |
| Preferred Stock Series A (B) | 554 shs. | 06/04/10 |
| Preferred Stock Series B (B) | 311 shs. | 06/04/10 |
| Common Stock (B) | 344 shs. | 06/04/10 |

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OakRiver Technology, Inc.

Designs, engineers and assembles high precision automated process equipment for the medical device defibrillators and stents.

| | | |
|---|--------------|----------|
| Common Stock (B) | 184,176 shs. | 01/03/06 |
| Warrant, exercisable until 2013, to purchase common stock at \$.01 per share (B) | 43,073 shs. | 01/03/06 |

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| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | |
| | | |
| Ontario Drive & Gear Ltd. | | |
| A manufacturer of all-wheel drive, off-road amphibious vehicles and related accessories. | | |
| Limited Liability Company Unit (B) | 1,942 uts. | 01/17/06 |
| Warrant, exercisable until 2013, to purchase common stock at \$.01 per share (B) | 328 shs. | 01/17/06 |
| | | |
| P K C Holding Corporation | | |
| A manufacturer of plastic film and badges for the general industrial, medical, and food industries | | |
| 14% Senior Subordinated Note due 2016 | \$ 1,552,500 | 12/21/10 |
| Preferred Stock Class A (B) | 29 shs. | 12/21/10 |
| Common Stock (B) | 29 shs. | 12/21/10 |
| | | |
| P P T Holdings LLC | | |
| A high-end packaging solutions provider that targets customers who have multiple packaging needs, volume SKUs, short lead times, technical expertise, and overall supply chain management. | | |
| 15% Senior Subordinated Note due 2017 | \$ 892,857 | 12/20/10 |
| Limited Liability Company Unit Class A (B) | 33 uts. | 12/20/10 |
| Limited Liability Company Unit Class B (B) | 33 uts. | 12/20/10 |
| | | |
| Pacific Consolidated Holdings LLC | | |
| A manufacturer of rugged, mobile liquid and gaseous oxygen and nitrogen generating systems used in industrial and medical sectors. | | |
| 14% Senior Subordinated Note due 2012 | \$ 716,295 | 04/27/07 |
| 5% Senior Subordinated Note due 2012 | \$ 42,187 | 07/21/10 |
| Preferred Shares Series E (B) | 42,187 uts. | 07/21/10 |
| Limited Liability Company Unit (B) | 928,962 uts. | 04/27/07 |
| | | |
| Paradigm Packaging, Inc. | | |
| A manufacturer of plastic bottles and closures for the nutritional, pharmaceutical, personal care | | |

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| | | | |
|--|----|-----------|----------|
| 12% Senior Subordinated Note due 2011 | \$ | 1,125,000 | 12/19/00 |
| Warrant, exercisable until 2011, to purchase common stock at \$.02 per share (B) | | 197 shs. | 12/21/00 |

Pearlman Enterprises, Inc.

A developer and distributor of tools, equipment and supplies to the natural and engineered stone

| | | | |
|------------------------------|--|-------------|----------|
| Preferred Stock Series A (B) | | 1,236 shs. | 05/22/09 |
| Preferred Stock Series B (B) | | 7,059 shs. | 05/22/09 |
| Common Stock (B) | | 21,462 shs. | 05/22/09 |

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|---|----|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | ----- | ----- |
| | | | |
| Postle Aluminum Company LLC | | | |
| A manufacturer and distributor of aluminum extruded products. | | | |
| 15% Senior Subordinated Note due 2013 | \$ | 824,114 | 06/03/10 |
| 3% Senior Subordinated PIK Note due 2014 (D) | \$ | 1,209,017 | 10/02/06 |
| Limited Liability Company Unit Class A (B) | | 733 uts. | 10/02/06 |
| Limited Liability Company Unit (B) | | 76 uts. | 05/22/09 |
| Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | | 4,550 shs. | 10/02/06 |
| | | | |
| Power Services Holding Company | | | |
| A provider of industrial motor repair services, predictive and preventative maintenance, and performance serving the petrochemical, mining, power generation, metals, and paper industries. | | | |
| 12% Senior Subordinated Note due 2016 | \$ | 1,255,814 | 02/11/08 |
| Limited Partnership Interest (B) | | 12.55% int. | 02/11/08 |
| Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | | 700 shs. | 02/11/08 |
| | | | |
| Precision Wire Holding Company | | | |
| A manufacturer of specialty medical wires that are used in non-elective minimally invasive surgical | | | |
| 14.25% Senior Subordinated Note due 2016 | \$ | 1,373,219 | 11/12/09 |
| Warrant, exercisable until 2019, to purchase common stock at \$.01 per share (B) | | 109 shs. | 11/12/09 |
| | | | |
| Qualis Automotive LLC | | | |
| A distributor of aftermarket automotive brake and chassis products. | | | |
| 13% Senior Subordinated Note due 2013 | \$ | 450,000 | 05/28/04 |
| Common Stock (B) | | 187,500 shs. | 05/28/04 |
| Warrant, exercisable until 2014, to purchase | | | |

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common stock at \$.01 per share (B) 199,969 shs. 05/28/04

R A J Manufacturing Holdings LLC
 A designer and manufacturer of women's swimwear sold under a variety of licensed brand names.
 14.5% Senior Subordinated Note due 2014 \$ 1,434,594 12/15/06
 Limited Liability Company Unit (B) 1,497 uts. 12/15/06
 Warrant, exercisable until 2014, to purchase
 common stock at \$.01 per share (B) 2 shs. 12/15/06

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|--|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | |

R E I Delaware Holding, Inc.
 An engineer and manufacturer of highly complex, close tolerance components, assemblies, tooling and
 primarily for aerospace, medical and defense/radar markets.
 12% Senior Subordinated Note due 2016 \$ 1,350,000 01/18/08
 Warrant, exercisable until 2018, to purchase
 common stock at \$.01 per share (B) 3 shs. 01/18/08

Royal Baths Manufacturing Company
 A manufacturer and distributor of acrylic and cultured marble bathroom products.
 12.5% Senior Subordinated Note due 2011 \$ 281,250 11/14/03
 Warrant, exercisable until 2011, to purchase
 common stock at \$.01 per share (B) 74 shs. 11/14/03

Safety Speed Cut Manufacturing Company, Inc.
 A manufacturer of vertical panel saws and routers for the wood working industry.
 Class B Common Stock (B) 846 shs. 06/02/99

Savage Sports Holding, Inc.
 A manufacturer of sporting firearms.
 12% Senior Subordinated Note due 2012 \$ 814,655 09/10/04
 Preferred Stock Series A (B) 35 shs. 05/28/10
 Common Stock (B) 324 shs. *
 Warrant, exercisable until 2012, to purchase
 common stock at \$.01 per share (B) 71 shs. 09/10/04

* 09/10/04 and 10/05/07.

Sencore Holding Company
 A designer, manufacturer, and marketer of decoders, receivers and modulators sold to broadcasters
 operators for encoding/decoding analog and digital transmission video signals.
 12.5% Senior Subordinated Note due 2014 \$ 934,615 01/15/09

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| | | |
|---|--------------|----------|
| Common Stock (B) | 69 shs. | 01/15/09 |
| Warrant, exercisable until 2019, to purchase common stock at \$.01 per share (B) | 149 shs. | 01/15/09 |
| | | |
| Smart Source Holdings LLC | | |
| A short-term computer rental company. | | |
| 12% Senior Subordinated Note due 2015 | \$ 1,176,924 | * |
| Limited Liability Company Unit (B) | 328 uts. | * |
| Warrant, exercisable until 2015, to purchase common stock at \$.01 per share (B) | 83 shs. | * |

* 08/31/07 and 03/06/08.

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|--|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | ----- | ----- |
| Snacks Parent Corporation | | |
| The worlds largest provider of trail mixes and a leading provider of snack nuts, dried fruits, and | | |
| 13% Senior Subordinated Note due 2017 | \$ 869,603 | 11/12/10 |
| Preferred Stock A (B) | 1,132 shs. | 11/12/10 |
| Preferred Stock B (B) | 525 shs. | 11/12/10 |
| Common Stock (B) | 6,579 shs. | 11/12/10 |
| Warrant, exercisable until 2020, to purchase common stock at \$.01 per share (B) | 1,806 shs. | 11/12/10 |
| | | |
| Spartan Foods Holding Company | | |
| A manufacturer of branded pizza crusts and pancakes. | | |
| 12.25% Senior Subordinated Note due 2017 | \$ 1,012,500 | 12/15/09 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 136 shs. | 12/15/09 |
| | | |
| Specialty Commodities, Inc. | | |
| A distributor of specialty food ingredients. | | |
| 13.25% Senior Subordinated Note due 2016 | \$ 1,224,124 | 10/23/08 |
| Common Stock (B) | 15,882 shs. | 10/23/08 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 5,852 shs. | 10/23/08 |
| | | |
| Stanton Carpet Holding Co. | | |
| A designer and marketer of high and mid-priced decorative carpets and rugs. | | |
| 12.13% Senior Subordinated Note due 2014 | \$ 1,185,366 | 08/01/06 |
| Common Stock (B) | 165 shs. | 08/01/06 |
| Warrant, exercisable until 2014, to purchase | | |

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| | | |
|--|------------|----------|
| common stock at \$.02 per share (B) | 55 shs. | 08/01/06 |
| Sundance Investco LLC | | |
| A provider of post-production services to producers of movies and television shows. | | |
| Limited Liability Company Unit Class A (B) | 3,405 uts. | 03/31/10 |
| Sunrise Windows Holding Co. | | |
| A manufacturer and marketer of premium vinyl windows exclusively selling to the residential remodeling industry. | | |
| 14% Senior Subordinated Note due 2017 | \$ 961,832 | 12/14/10 |
| Common Stock (B) | 38 shs. | 12/14/10 |
| Warrant, exercisable until 2020, to purchase common stock at \$.01 per share (B) | 37 shs. | 12/14/10 |

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| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | ----- | ----- |
| Synteract Holdings Corporation | | |
| A provider of outsourced clinical trial management services to pharmaceutical and biotechnology companies. | | |
| 14.5% Senior Subordinated Note due 2016 | \$ 1,386,565 | 09/02/08 |
| Redeemable Preferred Stock Series A (B) | 678 shs. | 09/02/08 |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 6,778 shs. | 09/02/08 |
| T H I Acquisition, Inc. | | |
| A machine servicing company providing value-added steel services to long steel products. | | |
| 12% Senior Subordinated Note due 2016 | \$ 1,350,000 | 01/14/08 |
| Warrant, exercisable until 2016, to purchase common stock at \$.01 per share (B) | 5 shs. | 01/14/08 |
| Telecorps Holdings, Inc. | | |
| A provider of equipment and services to producers of television shows and motion pictures. | | |
| 12.75% Senior Subordinated Note due 2016 | \$ 1,681,677 | * |
| Common Stock (B) | 143 shs. | 09/02/09 |
| Warrant, exercisable until 2019, to purchase common stock at \$.01 per share (B) | 4,187 shs. | * |
| * 05/20/09 and 09/02/09. | | |
| Terra Renewal LLC | | |
| A provider of wastewater residual management and required environmental reporting, permitting, and record keeping to companies involved in poultry and food processing. | | |
| 12% Senior Subordinated Note due 2014 | \$ 664,062 | * |
| 6.79% Term Note due 2012 (C) | \$ 779,010 | * |

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| | | | | |
|--|----|-----|------------|----------|
| 8.75% Term Note due 2012 (C) | \$ | 832 | | * |
| Limited Partnership Interest of | | | | |
| Saw Mill Capital Fund V, LLC (B) | | | 2.27% int. | ** |
| Warrant, exercisable until 2016, to purchase | | | | |
| common stock at \$.01 per share (B) | | | 41 shs. | 04/28/06 |

* 04/28/06 and 09/13/06. **03/01/05 and 10/10/08.

Torrent Group Holdings, Inc.

A contractor specializing in the sales and installation of engineered drywells for the retention nuisance water flow.

| | | | | |
|---|----|-----------|----------|----------|
| 14.5% Senior Subordinated Note due 2013 (D) | \$ | 1,300,003 | | 10/26/07 |
| Series B Preferred Stock (B) | | | 97 shs. | 03/31/10 |
| Common Stock (B) | | | 273 shs. | 03/31/10 |

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| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | | | |

Total E & S, Inc.

A manufacturer of a wide variety of equipment used in the oil and gas industry.

| | | | | |
|---|----|---------|--|----------|
| 10.5% Senior Secured Term Note due 2013 | \$ | 486,487 | | 03/02/07 |
| 13% Senior Subordinated Note due 2014 | \$ | 341,971 | | 03/02/07 |

Transpac Holding Company

A designer, importer, and wholesaler of home decor and seasonal gift products.

| | | | | |
|--|----|---------|----------|----------|
| 14% Senior Subordinated Note due 2015 (D) | \$ | 938,651 | | 10/31/07 |
| Common Stock (B) | | | 110 shs. | 10/31/07 |
| Warrant, exercisable until 2015, to purchase | | | | |
| common stock at \$.01 per share (B) | | | 50 shs. | 10/31/07 |

Tranzonic Companies (The)

A producer of commercial and industrial supplies, such as safety products, janitorial supplies, w supplies and sanitary care products.

| | | | | |
|--|----|-----------|----------|----------|
| 13% Senior Subordinated Note due 2013 | \$ | 1,356,000 | | 02/05/98 |
| Common Stock (B) | | | 315 shs. | 02/04/98 |
| Warrant, exercisable until 2013, to purchase | | | | |
| common stock at \$.01 per share (B) | | | 222 shs. | 02/05/98 |

Truck Bodies & Equipment International

A designer and manufacturer of accessories for heavy and medium duty trucks, primarily dump bodie bodies, landscape bodies and other accessories.

| | | | | |
|---|----|-----------|----------|----------|
| 12% Senior Subordinated Note due 2014 (D) | \$ | 1,222,698 | | * |
| Preferred Stock Series B (B) | | | 128 shs. | 10/20/08 |

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| | | |
|---|----------|----------|
| Common Stock (B) | 393 shs. | * |
| Warrant, exercisable until 2013, to purchase common stock at \$.02 per share (B) | 81 shs. | * |
| Warrant, exercisable until 2018, to purchase common stock at \$.01 per share (B) | 558 shs. | 10/20/08 |

* 07/19/05 and 12/22/05.

TruStile Doors, Inc.
A manufacturer and distributor of interior doors.
Warrant, exercisable until 2013, to purchase
common stock at \$.01 per share (B) 3,060 shs. 04/11/03

MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | ACQUISITION DATE |
|--|---|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | |
| | | |
| U M A Enterprises, Inc. An importer and wholesaler of home decor products. 15% Senior Subordinated Note due 2015 | \$ 960,079 | 02/08/08 |
| Convertible Preferred Stock (B) | 470 shs. | 02/08/08 |
| | | |
| U-Line Corporation A manufacturer of high-end, built-in, undercounter ice making, wine storage and refrigeration app 12.5% Senior Subordinated Note due 2012 | \$ 946,675 | 04/30/04 |
| Common Stock (B) | 96 shs. | 04/30/04 |
| Warrant, exercisable until 2012, to purchase common stock at \$.01 per share (B) | 122 shs. | 04/30/04 |
| | | |
| Visioneering, Inc. A designer and manufacturer of tooling and fixtures for the aerospace industry. 10.5% Senior Secured Term Loan due 2013 | \$ 458,824 | 05/17/07 |
| 13% Senior Subordinated Note due 2014 | \$ 370,588 | 05/17/07 |
| 18% PIK Convertible Preferred Stock (B) | 21,361 shs. | 03/13/09 |
| Common Stock (B) | 70,588 shs. | 05/17/07 |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | 20,003 shs. | 05/17/07 |
| | | |
| Vitex Packaging Group, Inc. A manufacturer of specialty packaging, primarily envelopes and tags used on tea bags. 10% Senior Subordinated PIK Note due 2011 | \$ 91,867 | 10/29/09 |
| 5% Senior Subordinated PIK Note due 2011 (D) | \$ 450,000 | 06/30/07 |
| Class B Unit (B) | 406,525 uts. | 10/29/09 |
| Class C Unit (B) | 450,000 uts. | 10/29/09 |
| Limited Liability Company Unit Class A (B) | 383,011 uts. | * |
| Limited Liability Company Unit Class B (B) | 96,848 uts. | 07/19/04 |

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* 07/19/04 and 10/29/09.

Wellborn Forest Holding Co.

A manufacturer of semi-custom kitchen and bath cabinetry.

| | | | | |
|---|----|---------|---------|----------|
| 12.13% Senior Subordinated Note due 2014 | \$ | 911,250 | | 11/30/06 |
| Common Stock (B) | | | | 11/30/06 |
| Warrant, exercisable until 2014, to purchase common stock at \$.01 per share (B) | | | 51 shs. | 11/30/06 |

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MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)

December 31, 2010

| | | PRINCIPAL AMOUNT, SHARES, UNITS, OR OWNERSHIP PERCENTAGE | | ACQUISITION DATE |
|---|----|---|-------------|---------------------|
| CORPORATE RESTRICTED SECURITIES: (A) (Continued) | | | | |
| | | | | |
| Wheaton Holding Corporation | | | | |
| A distributor and manufacturer of laboratory supply products and packaging. | | | | |
| 13% Senior Subordinated Note due 2017 | \$ | 1,000,000 | | 06/08/10 |
| Preferred Stock Series B (B) | | | 703 shs. | 06/08/10 |
| Common Stock (B) | | | 353 shs. | 06/08/10 |
| | | | | |
| Whitcraft Holdings, Inc. | | | | |
| A leading independent manufacturer of precision formed, machined, and fabricated flight-critical | | | | |
| 12% Senior Subordinated Note due 2018 | \$ | 794,521 | | 12/16/10 |
| Common Stock (B) | | | 205 shs. | 12/16/10 |
| Warrant, exercisable until 2015, to purchase common stock at \$.02 per share (B) | | | 55 shs. | 12/16/10 |
| | | | | |
| Workplace Media Holding Co. | | | | |
| A direct marketer specializing in providing advertisers with access to consumers in the workplace | | | | |
| 13% Senior Subordinated Note due 2015 | \$ | 654,247 | | 05/14/07 |
| Limited Partnership Interest (B) | | | 12.26% int. | 05/14/07 |
| Warrant, exercisable until 2015, to purchase common stock at \$.02 per share (B) | | | 47 shs. | 05/14/07 |
| | | | | |
| Xaloy Superior Holdings, Inc. | | | | |
| A provider of melt processing components and ancillary equipment for both plastic injection molding | | | | |
| 15.5% Senior Subordinated Note due 2015 (D) | \$ | 1,229,741 | | 09/08/08 |
| Common Stock (B) | | | 150 shs. | 09/08/08 |

Total Private Placement Investments (E)

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 MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
 December 31, 2010

| CORPORATE RESTRICTED SECURITIES:(A) (Continued) | INTEREST RATE | DUE DATE | SHARES OR PRINCIPAL AMOUNT |
|---|------------------|-------------|----------------------------------|
| | ----- | ----- | ----- |
| RULE 144A SECURITIES - 0.98%:(A) | | | |
| Bonds - 0.98% | | | |
| ArcelorMittal | 6.125% | 06/01/18 | \$ 500,000 |
| Cenveo Corporation | 10.500 | 08/15/16 | 45,000 |
| Coffeyville Resources LLC | 9.000 | 04/01/15 | 62,000 |
| NBC Universal | 5.150 | 04/30/20 | 500,000 |
| Total Bonds | | | |
| Convertible Preferred Stock - 0.00% | | | |
| ETEX Corporation (B) | | | 194 |
| Total Convertible Preferred Stock | | | |
| Preferred Stock - 0.00% | | | |
| TherOX, Inc. (B) | | | 26 |
| Total Preferred Stock | | | |
| Common Stock - 0.00% | | | |
| Touchstone Health Partnership (B) | | | 292 |
| Total Common Stock | | | |
| Total Rule 144A Securities | | | |
| Total Corporate Restricted Securities | | | |

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 MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
 December 31, 2010

| CORPORATE PUBLIC SECURITIES-9.99%:(A) | INTEREST RATE | DUE DATE | SHARES OR PRINCIPAL AMOUNT |
|---------------------------------------|------------------|-------------|----------------------------------|
| | ----- | ----- | ----- |
| Bonds - 9.85% | | | |
| ACCO Brands Corporation | 10.625% | 03/15/15 | \$ 45,000 |
| Affinia Group, Inc. | 9.000 | 11/30/14 | 25,000 |
| Allegheny Technologies, Inc. | 9.375 | 06/12/19 | 500,000 |

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| | | | |
|--------------------------------------|--------|----------|---------|
| Allied Waste NA | 7.125 | 05/15/16 | 500,000 |
| C R H America, Inc. | 5.300 | 10/15/13 | 500,000 |
| Centurytel, Inc. | 5.000 | 02/15/15 | 500,000 |
| Citigroup, Inc. | 5.500 | 04/11/13 | 500,000 |
| Cytec Industries, Inc. | 8.950 | 07/01/17 | 600,000 |
| Equifax, Inc. | 4.450 | 12/01/14 | 500,000 |
| GATX Corporation | 4.750 | 05/15/15 | 500,000 |
| Gannett Company, Inc. | 9.375 | 11/15/17 | 60,000 |
| General Electric Capital Corporation | 5.500 | 01/08/20 | 500,000 |
| Goldman Sachs Group, Inc. | 4.750 | 07/15/13 | 500,000 |
| International Game Technology | 7.500 | 06/15/19 | 500,000 |
| Johnson Controls, Inc. | 5.500 | 01/15/16 | 500,000 |
| Kraft Foods, Inc. | 5.375 | 02/10/20 | 500,000 |
| Masco Corporation | 7.125 | 03/15/20 | 350,000 |
| Morgan Stanley | 5.500 | 01/26/20 | 500,000 |
| Nortek, Inc. | 11.000 | 12/01/13 | 100,444 |
| Owens Corning, Inc. | 9.000 | 06/15/19 | 30,000 |
| Pride International, Inc. | 6.875 | 08/15/20 | 30,000 |
| Qwest Diagnostic, Inc. | 4.750 | 01/30/20 | 500,000 |
| Sealed Air Corporations | 7.875 | 06/15/17 | 500,000 |
| The Valspar Corporation | 7.250 | 06/15/19 | 500,000 |
| Time Warner Cable, Inc. | 5.000 | 02/01/20 | 500,000 |
| Tyco Electronics Group SA | 6.550 | 10/01/17 | 500,000 |
| Tyco International Group SA | 8.500 | 01/15/19 | 125,000 |
| W P P Finance Corporation | 5.875 | 06/15/14 | 500,000 |

Total Bonds

| | | | |
|--------------------------------|--|--|---------|
| Common Stock - 0.14% | | | |
| Directed Electronics, Inc. (B) | | | 195,118 |
| Intrepid Potash, Inc. (B) | | | 185 |
| Nortek, Inc. (B) | | | 100 |
| Rue21, Inc. (B) | | | 350 |

Total Common Stock

Total Corporate Public Securities

MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| | RATE/ YIELD [^] | DUE DATE | INTEREST PRINCIPAL AMOUNT |
|--|-----------------------------|-------------|---------------------------------|
| CORPORATE PUBLIC SECURITIES: (A) (Continued) | ----- | ----- | ----- |
| Short-Term Securities: | | | |
| Commercial Paper - 8.41% | | | |
| AGL Capital Corporation | 0.370% | 01/12/11 | \$ 1,500,000 |
| Apache Corporation | 0.370 | 01/04/11 | 1,500,000 |
| Carnival PLC | 0.350 | 01/06/11 | 1,525,000 |
| ERAC USA Finance Company | 0.370 | 01/03/11 | 1,525,000 |
| Nissan Motor Acceptance Corporation | 0.370 | 01/07/11 | 2,000,000 |
| United Health Group, Inc. | 0.400 | 01/03/11 | 2,000,000 |

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Total Short-Term Securities

| | |
|-------------------|---------|
| Total Investments | 109.31% |
| Other Assets | 3.90 |
| Liabilities | (13.21) |
| | ----- |
| Total Net Assets | 100.00% |
| | ===== |

- (A) In each of the convertible note, warrant, and common stock investments, the issuer has agreed rights.
- (B) Non-income producing security.
- (C) Variable rate security; rate indicated is as of December 31, 2010.
- (D) Defaulted security; interest not accrued.
- (E) Illiquid security. As of December 31, 2010, the values of these securities amounted to \$107,5
- ^ Effective yield at purchase
- PIK - Payment-in-kind

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MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED) December 31, 2010

| Industry Classification | Fair Value/ Market Value ----- | |
|-----------------------------------|--------------------------------------|------------------------------|
| AEROSPACE - 3.04% | | BUILDINGS & REAL ESTATE - 2 |
| A E Company, Inc. | \$ 1,849,144 | K W P I Holdings Corporation |
| Visioneering, Inc. | 801,222 | Masco Corporation |
| Whitcraft Holdings, Inc. | 985,341 | Owens Corning, Inc. |
| | ----- | Sunrise Windows Holding Co. |
| | 3,635,707 | TruStile Doors, Inc. |
| | ----- | |
| AUTOMOBILE - 4.29% | | |
| F H Equity LLC | 501,330 | |
| J A C Holding Enterprises, Inc. | 988,252 | CHEMICAL, PLASTICS & RUBBER |
| Jason Partners Holdings LLC | 25,511 | Capital Specialty Plastics, |
| Johnson Controls, Inc. | 546,775 | Nicoat Acquisitions LLC |
| Nyloncraft, Inc. | 1,630,972 | |
| Ontario Drive & Gear Ltd. | 666,448 | |
| Qualis Automotive LLC | 774,963 | |
| | ----- | |
| | 5,134,251 | CONSUMER PRODUCTS - 10.92% |
| | ----- | Aero Holdings, Inc. |
| BEVERAGE, DRUG & FOOD - 6.51% | | Bravo Sports Holding Corpor |
| Eatem Holding Company | 986,206 | Custom Engineered Wheels, I |
| F F C Holding Corporation | 987,004 | K N B Holdings Corporation |
| Golden County Foods Holding, Inc. | 513,158 | Manhattan Beachwear Holding |
| Hospitality Mints Holding Company | 1,359,516 | Momentum Holding Co. |
| Kraft Foods, Inc. | 538,135 | Nissan Motor Acceptance Cor |
| L H D Europe Holding, Inc. | 12,825 | R A J Manufacturing Holding |
| Snacks Parent Corporation | 1,018,834 | The Tranzonic Companies |
| Spartan Foods Holding Company | 1,011,502 | |
| Specialty Commodities, Inc. | 1,359,884 | |
| | ----- | |
| | 7,787,064 | CONTAINERS, PACKAGING & GLA |
| | | Flutes, Inc. |

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| | |
|---|--|
| BROADCASTING & ENTERTAINMENT - 1.59% NBC Universal 518,311 Time Warner Cable, Inc. 514,569 WPP Finance Corporation 540,213 Workplace Media Holding Co. 327,123 <hr style="border-top: 1px dashed black;"/> <div style="text-align: right;">1,900,216</div> <hr style="border-top: 1px dashed black;"/> | P K C Holding Corporation P P T Holdings LLC Paradigm Packaging, Inc. Sealed Air Corporation Vitex Packaging Group, Inc. |
|---|--|

 MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
 December 31, 2010

| Industry Classification | Fair Value/ Market Value | |
|---|---|---|
| ----- | | |
| DISTRIBUTION - 1.83% Duncan Systems, Inc. F C X Holdings Corporation | \$ 832,870 1,356,843 <hr style="border-top: 1px dashed black;"/> 2,189,713 <hr style="border-top: 1px dashed black;"/> | ELECTRONICS - 1.10% Barcodes Group, Inc. Connecticut Electric, Inc. Directed Electronics, Inc. |
| DIVERSIFIED/CONGLOMERATE, MANUFACTURING - 12.27% A H C Holdings Company, Inc. Arrow Tru-Line Holdings, Inc. C D N T, Inc. F G I Equity LLC G C Holdings, Inc. K P H I Holdings, Inc. K P I Holdings, Inc. MEGTEC Holdings, Inc. Milwaukee Gear Company Nortek, Inc. O E C Holdings Corporation Postle Aluminum Company LLC Truck Bodies & Equipment International Xaloy Superior Holdings, Inc. | 1,560,683 787,367 836,155 497,822 985,319 978,958 1,220,983 1,152,099 1,212,666 110,573 500,432 2,505,152 1,100,428 1,219,859 <hr style="border-top: 1px dashed black;"/> 14,668,496 <hr style="border-top: 1px dashed black;"/> | FINANCIAL SERVICES - 2.20% Citigroup, Inc. GATX Corporation General Electric Capital Co Goldman Sachs Group, Inc. Highgate Capital LLC Morgan Stanley |
| DIVERSIFIED/CONGLOMERATE, SERVICE - 11.88% A S C Group, Inc. A W X Holdings Corporation ACCO Brands Corporation Advanced Technologies Holdings Affinia Group, Inc. Apex Analytix Holding Corporation Associated Diversified Services C R H America, Inc. Clough, Harbour and Associates Crane Rental Corporation Equifax, Inc. Insurance Claims Management, Inc. Mail Communications Group, Inc. Nesco Holdings Corporation Northwest Mailing Services, Inc. | 1,470,096 315,000 50,625 1,507,394 25,688 1,381,878 686,213 536,546 1,421,500 1,190,998 526,278 205,141 723,230 1,693,192 1,739,212 | HEALTHCARE, EDUCATION & CHI American Hospice Management Qwest Diagnostic, Inc. Synteract Holdings Corporat United Health Group, Inc. Wheaton Holdings Corporatio HOME & OFFICE FURNISHINGS, DURABLE CONSUMER PRODUCTS - Connor Sport Court Internat H M Holding Company Home Decor Holding Company Justrite Manufacturing Acqui K H O F Holdings, Inc. Monessen Holding Corporatio Royal Baths Manufacturing C Stanton Carpet Holding Co. Transpac Holdings Company U M A Enterprises, Inc. U-Line Corporation Wellborn Forest Holding Co. |

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| | |
|----------------------------|------------|
| Pearlman Enterprises, Inc. | -- |
| Tyco International Group | 728,206 |
| | ----- |
| | 14,201,197 |
| | ----- |

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MassMutual Participation Investors 2010 Annual Report

CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| Industry Classification | Fair Value/ Market Value | |
|--|-----------------------------|-----------------------------|
| | ----- | |
| LEISURE, AMUSEMENT, ENTERTAINMENT - 3.04% | | NATURAL RESOURCES - 2.84% |
| Carnival PLC | \$ 1,524,926 | Apache Corporation |
| International Game Technology | 562,830 | ArcelorMittal |
| Savage Sports Holding, Inc. | 1,540,405 | Cenveo Corporation |
| | ----- | Cytec Industries, Inc. |
| | 3,628,161 | Intrepid Potash, Inc. |
| | ----- | The Valspar Corporation |
| MACHINERY - 7.75% | | |
| A S A P Industries LLC | 799,087 | |
| Davis-Standard LLC | 1,282,636 | OIL & GAS - 2.76% |
| E S P Holdco, Inc. | 1,274,156 | Coffeyville Resources LLC |
| M V I Holding, Inc. | 605,284 | International Offshore Serv |
| Motion Controls Holdings | 991,987 | MBWS Ultimate Holdco, Inc. |
| Navis Global | 472,220 | Pride International, Inc. |
| NetShape Technologies, Inc. | 433,846 | Total E & S, Inc. |
| Pacific Consolidated Holdings LLC | 620,876 | |
| Power Services Holding Company | 1,268,091 | PHARMACEUTICALS - 1.24% |
| R E I Delaware Holding, Inc. | 1,355,247 | CorePharma LLC |
| Safety Speed Cut Manufacturing Company, Inc. | 165,693 | |
| | ----- | PUBLISHING/PRINTING - 0.06% |
| | 9,269,123 | Gannett Company, Inc. |
| | ----- | |
| MEDICAL DEVICES/BIOTECH - 3.76% | | RETAIL STORES - 0.01% |
| Coeur, Inc. | 701,421 | Rue21, Inc. |
| E X C Acquisition Corporation | 41,372 | |
| ETEX Corporation | -- | TECHNOLOGY - 1.87% |
| MedSystems Holdings LLC | 700,312 | Sencore Holding Company |
| MicroGroup, Inc. | 1,208,526 | Smart Source Holdings LLC |
| OakRiver Technology, Inc. | 347,821 | |
| Precision Wire Holding Company | 1,494,226 | |
| TherOX, Inc. | -- | |
| | ----- | |
| | 4,493,678 | |
| | ----- | |
| MINING, STEEL, IRON & NON-PRECIOUS METALS - 1.51% | | |
| Allegheny Technology, Inc. | 584,122 | |
| T H I Acquisition, Inc. | 1,215,000 | |
| | ----- | |
| | 1,799,122 | |
| | ----- | |

MassMutual Participation Investors 2010 Annual Report

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CONSOLIDATED SCHEDULE OF INVESTMENTS (CONTINUED)
December 31, 2010

| Industry Classification | Fair Value/ Market Value ----- | |
|-----------------------------|--------------------------------------|-----------------------------|
| TELECOMMUNICATIONS - 2.22% | | WASTE MANAGEMENT / POLLUTIO |
| All Current Holding Company | \$ 712,604 | Allied Waste NA |
| Centurytel, Inc. | 510,562 | Terra Renewal LLC |
| Sundance Investco LLC | -- | Torrent Group Holdings, Inc |
| Telecorps Holdings, Inc. | 1,429,425 | |
| | ----- | |
| | 2,652,591 | Total Investments - 109.31% |
| | ----- | |
| TRANSPORTATION - 1.27% | | |
| ERAC USA Finance Company | 1,524,969 | |
| NABCO, Inc. | -- | |
| | ----- | |
| | 1,524,969 | |
| | ----- | |
| UTILITIES - 1.25% | | |
| AGL Capital Corporation | 1,499,830 | |
| | ----- | |

See Notes to Consolidated Financial Statements

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MassMutual Participation Investors 2010 Annual Report

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. HISTORY

MassMutual Participation Investors (the "Trust") was organized as a Massachusetts business trust under the laws of the Commonwealth of Massachusetts pursuant to a Declaration of Trust dated April 7, 1988.

The Trust is a diversified closed-end management investment company. Babson Capital Management LLC ("Babson Capital"), a wholly-owned indirect subsidiary of Massachusetts Mutual Life Insurance Company ("MassMutual"), acts as its investment adviser. The Trust's investment objective is to maximize total return by providing a high level of current income, the potential for growth of income, and capital appreciation. The Trust's principal investments are privately placed, below-investment grade, long-term debt obligations purchased directly from their issuers, which tend to be smaller companies. At least half of these investments normally include equity features such as common stock, warrants, conversion rights, or other equity features that provide the Trust with the opportunity to realize capital gains. The Trust will also invest in publicly traded debt securities (including high yield securities), again with an emphasis on those with equity features, and in convertible preferred stocks and, subject to certain limitations, readily marketable equity securities.

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Below-investment grade or high yield securities have predominantly speculative characteristics with respect to the capacity of the issuer to pay interest and repay capital. In addition, the Trust may temporarily invest in high quality, readily marketable securities.

On January 27, 1998, the Board of Trustees authorized the formation of a wholly-owned subsidiary of the Trust ("MMPI Subsidiary Trust") for the purpose of holding certain investments. The results of the MMPI Subsidiary Trust are consolidated in the accompanying financial statements. Footnote 2.D below discusses the federal tax consequences of the MMPI Subsidiary Trust.

2. SIGNIFICANT ACCOUNTING POLICIES

The following is a summary of significant accounting policies followed consistently by the Trust in the preparation of its consolidated financial statements in conformity with accounting principles generally accepted in the United States of America.

A. VALUATION OF INVESTMENTS:

Nearly all securities which are acquired by the Trust directly from the issuers and shares into which such securities may be converted or which may be purchased on the exercise of warrants attached to such securities will be subject to legal or contractual delays in, or restrictions on, resale and will therefore be "restricted securities." Generally speaking, as contrasted with open-market sales of unrestricted securities (public securities), which may be effected immediately if the market is adequate, restricted securities can be sold only in a public offering for which a registration statement is in effect under the Securities Act of 1933, as amended (the "1933 Act") or pursuant to a transaction that is exempt from registration under the 1933 Act. Restricted securities that are valued using public information, such as observable trades or market quotations, are reflected as restricted securities at market value. Valuation of securities in the Trust's portfolio is made on the basis of the market price whenever market quotations are readily available.

The value of restricted securities at fair value, and of any other assets for which there are no reliable market quotations, is the fair value as determined in good faith by the Trust's Board of Trustees (the "Trustees"). Each restricted security is valued by the Trustees at the time of its acquisition and at least quarterly thereafter. The Trustees have established guidelines to aid in the valuation of each security. Generally, restricted securities are initially valued at cost at the time of acquisition by the Trust. Values greater or less than cost are used thereafter for restricted securities in appropriate circumstances. Among the factors ordinarily considered in the valuation of debt and equity securities at fair value are the results of various valuation methods, which may include comparable company valuation analyses, discounted future cash flow models and recent private transactions. As part of the valuation process, we may take into account the following types of factors, if relevant, in determining the fair value of our investments: the enterprise value of a portfolio company (an estimate of the total fair value of the portfolio company's debt and equity), the portfolio company's earnings, the markets in which the portfolio company does business, a comparison of the portfolio company's securities to publicly traded securities, changes in the interest rate environment and the credit markets generally that may affect the price at which similar investments may be made in the future and other relevant factors. Consideration is also given to corporate governance, marketability, company and industry results and outlooks, and general market conditions. The determination of fair value involves subjective judgments. As a result, using fair value to price a security may result in a price materially different from the price used by other investors or the price that may be realized up on the actual sale of the

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security. All of these factors are in accordance with the authoritative guidance on fair value measurements under accounting principles generally accepted in the authoritative guidance on fair value measurements under accounting principles generally accepted in the United States of America ("U.S. GAAP"). In making valuations, opinions of counsel may be relied upon as to whether or not securities are restricted securities and as to the legal requirements for public sale.

When market quotations are readily available for unrestricted securities of an issuer, restricted securities of the same class are generally valued at a discount from the market price of such unrestricted securities. The Trustees, however, consider all factors in fixing any discount, including the filing of a registration statement for such securities under the 1933 Act and any other developments which are likely to increase the probability that the securities may be publicly sold by the Trust without restriction.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The Trustees meet at least once each quarter to approve the value of the Trust's portfolio securities as of the close of business on the last business day of the preceding quarter. This valuation requires the approval of a majority of the Trustees of the Trust, including a majority of the Trustees who are not interested persons of the Trust or of Babson Capital. In making valuations, the Trustees will consider reports by Babson Capital analyzing each portfolio security in accordance with the relevant factors referred to above. Babson Capital has agreed to provide such reports to the Trust at least quarterly.

The consolidated financial statements include private placement restricted securities valued at \$107,507,131 (89.93% of net assets) as of December 31, 2010 whose values have been estimated by the Trustees in the absence of readily ascertainable market values. Due to the inherent uncertainty of valuation, those estimated values may differ significantly from the values that would have been used had a ready market for the securities existed, and the differences could be material.

The values for Rule 144A restricted securities and corporate public securities are stated at the last reported sales price or at prices based upon quotations obtained from brokers and dealers as of December 31, 2010, subject to discount where appropriate, and are approved by the Trustees.

Short-term securities with more than sixty days to maturity are valued at fair value and short-term securities having a maturity of sixty days or less are valued at amortized cost, which approximates market value.

In accordance with the authoritative guidance on fair value measurements and disclosures under U.S. GAAP, the Trust discloses the fair value of its investments in a hierarchy that prioritizes the inputs to valuation techniques used to measure the fair value. The hierarchy gives the highest priority to valuations based upon unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurement) and the lowest priority to valuations based upon unobservable inputs that are significant to the valuation (level 3 measurements). The guidance establishes three levels of the fair value hierarchy as follows:

Level 1: quoted prices in active markets for identical securities
Level 2: other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit

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risk, etc.)
 Level 3: significant unobservable inputs (including the Trust's own assumptions in determining the fair value of investments)

The following is a summary of the inputs used to value the Trust's net assets as of December 31, 2010:

| ASSETS: | TOTAL | LEVEL 1 | LEVEL 2 | LEVEL 3 |
|-----------------------|----------------|------------|---------------|----------------|
| Restricted Securities | | | | |
| Corporate Bonds | \$ 92,637,311 | \$ - | \$ 1,161,608 | \$ 91,475,703 |
| Common Stock - U.S. | 7,253,165 | - | - | 7,253,165 |
| Preferred Stock | 4,615,621 | - | - | 4,615,621 |
| Partnerships and LLCs | 4,162,642 | - | - | 4,162,642 |
| Public Securities | | | | |
| Corporate Bonds | 11,778,079 | - | 11,778,079 | - |
| Common Stock - U.S. | 172,949 | 172,949 | - | - |
| Short-term Securities | 10,049,511 | - | 10,049,511 | - |
| TOTAL | \$ 130,669,278 | \$ 172,949 | \$ 22,989,198 | \$ 107,507,131 |

Following is a reconciliation of Level 3 assets for which significant unobservable inputs were used to determine fair value:

| ASSETS: | BEGINNING BALANCE AT 12/31/2009 | TOTAL GAINS OR LOSSES (REALIZED/ UNREALIZED) | PURCHASES, SALES, ISSUANCES & SETTLEMENTS (NET) | TRANSFERS IN AND/OR OUT OF LEVEL 3 | ENDING BALANCE 12/31/2010 |
|-----------------------|---------------------------------------|---|--|--|---------------------------------|
| Restricted Securities | | | | | |
| Corporate Bonds | \$ 81,465,949 | \$ 2,674,908 | \$ 7,334,847 | \$ - | \$ 91,475,703 |
| Common Stock - U.S. | 7,767,378 | 2,053,326 | (2,567,540) | - | 7,253,165 |
| Preferred Stock | 3,468,130 | 2,043,458 | (895,967) | - | 4,615,621 |
| Partnerships and LLCs | 3,536,247 | 2,158,867 | (1,532,472) | - | 4,162,642 |
| | \$ 96,237,704 | \$ 8,930,559 | \$ 2,338,868 | \$ - | \$ 107,507,131 |

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The inputs and methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities.

B. ACCOUNTING FOR INVESTMENTS:

Investment transactions are accounted for on the trade date. Dividend income is recorded on the ex-dividend date. Interest income is recorded on the accrual basis, including the amortization of premiums and accretion of discounts on bonds held using the yield-to-maturity method. The Trust does not accrue income when payment is delinquent and when management believes payment is questionable.

Realized gains and losses on investment transactions and unrealized appreciation and depreciation of investments are reported for financial

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statement and Federal income tax purposes on the identified cost method.

C. USE OF ESTIMATES:

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

D. FEDERAL INCOME TAXES:

The Trust has elected to be taxed as a "regulated investment company" under the Internal Revenue Code, and intends to maintain this qualification and to distribute substantially all of its net taxable income to its shareholders. In any year when net long-term capital gains are realized by the Trust, management, after evaluating the prevailing economic conditions, will recommend that Trustees either designate the net realized long-term gains as undistributed and pay the federal capital gains taxes thereon, or distribute all or a portion of such net gains. For the year ended December 31, 2010, the Trust had a net realized taxable long-term capital gain balance of \$695,446, which the Trustees voted to retain and pay the federal capital gain tax thereon. The Trust has incurred income tax expense of \$243,207 on the Statement of Operations related to the retained realized capital gains.

The Trust is taxed as a regulated investment company and is therefore limited as to the amount of non-qualified income that it may receive as the result of operating a trade or business, e.g. the Trust's pro rata share of income allocable to the Trust by a partnership operating company. The Trust's violation of this limitation could result in the loss of its status as a regulated investment company, thereby subjecting all of its net income and capital gains to corporate taxes prior to distribution to its shareholders. The Trust, from time-to-time, identifies investment opportunities in the securities of entities that could cause such trade or business income to be allocable to the Trust.

The MMPI Subsidiary Trust (described in Footnote 1, above) was formed in order to allow investment in such securities without adversely affecting the Trust's status as a regulated investment company.

Net investment income and net realized gains or losses of the Trust as presented under accounting principles generally accepted in the United States of America may differ from distributable taxable earnings due to earnings from the MMPI Subsidiary Trust as well as certain permanent and temporary differences in the recognition of income and realized gains or losses on certain investments. Permanent differences will result in reclassifications to the capital accounts. In 2010, the Trust increased undistributed net investment income and decreased additional paid in capital by a total of \$95,820 to more accurately display the Trust's capital financial position on a tax-basis in accordance with accounting principles generally accepted in the United States of America. These re-classifications had no impact on net asset value.

The MMPI Subsidiary Trust is not taxed as a regulated investment company. Accordingly, prior to the Trust receiving any distributions from the MMPI Subsidiary Trust, all of the MMPI Subsidiary Trust's taxable income and realized gains, including non-qualified income and realized gains, is subject to taxation at prevailing corporate tax rates. As of December 31, 2010, the MMPI Subsidiary Trust has incurred income tax expense of \$284,885.

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Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of the existing assets and liabilities and their respective tax basis. For the year ended December 31, 2010, the MMPI Subsidiary Trust has a deferred tax liability of \$264,465.

Beginning with the 2009 annual financial statements, the Trust recognizes a tax benefit from an uncertain position only if it is more likely than not that the position is sustainable, based solely on its technical merits and consideration of the relevant taxing authority's widely understood administrative practices and precedents. If this threshold is met, the Trust measures the tax benefit as the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. The Trust has evaluated and determined that the tax positions did not have a material effect on the Trust's financial position and results of operations for the year ended December 31, 2010.

E. DISTRIBUTIONS TO SHAREHOLDERS:

The Trust records distributions to shareholders from net investment income and net realized gains, if any, on the exdividend date. The Trust's net investment income dividend is declared four times per year, in April, July, October, and December. The Trust's net realized capital gain distribution, if any, is declared in December.

MassMutual Participation Investors 2010 ANNUAL REPORT

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

As of December 31, 2010, the components of distributable earnings on a tax basis included \$1,708,183 of undistributed ordinary income and \$452,239 of undistributed net realized long term capital gains. Such distributions and distributable earnings on a tax basis are determined in conformity with income tax regulations, which may differ from accounting principles generally accepted in the United States of America.

The difference between net taxable undistributed earnings to GAAP is \$136,638 comprised of other timing differences.

The tax character of distributions declared during the years ended December 31, 2010 and 2009 was as follows:

| DISTRIBUTIONS PAID FROM: | 2010 | 2009 |
|--------------------------|---------------|--------------|
| Ordinary Income | \$ 10,026,104 | \$ 9,955,268 |
| Long-term Capital Gains | \$ - | \$ - |

F. EXPENSE REDUCTION:

Citibank, N.A. ("Citibank") serves as custodian to the Trust. Pursuant to the custodian agreement, Citibank receives a fee reduced by credits on cash balances the Trust maintains with Citibank. All credit balances, if any, used to reduce the Trust's custodian fees are reported as fees paid indirectly on the Statement of Operations. For the year ended December 31, 2010, there were no credit balances used to reduce custodian fees.

3. INVESTMENT ADVISORY AND ADMINISTRATIVE SERVICES CONTRACT

A. SERVICES:

Under an Investment Advisory and Administrative Services Contract (the "Contract") with the Trust, Babson Capital has agreed to use its best efforts to present to the Trust a continuing and suitable investment program consistent with the investment objectives and policies of the

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Trust. Babson Capital represents the Trust in any negotiations with issuers, investment banking firms, securities brokers or dealers and other institutions or investors relating to the Trust's investments. Under the Contract, Babson Capital also provides administration of the day-to-day operations of the Trust and provides the Trust with office space and office equipment, accounting and bookkeeping services, and necessary executive, clerical and secretarial personnel for the performance of the foregoing services.

B. FEE:

For its services under the Contract, Babson Capital is paid a quarterly investment advisory fee equal to 0.225% of the value of the Trust's net assets as of the last business day of each fiscal quarter, an amount approximately equivalent to 0.90% on an annual basis. A majority of the Trustees, including a majority of the Trustees who are not interested persons of the Trust or of Babson Capital, approve the valuation of the Trust's net assets as of such day.

4. SENIOR SECURED INDEBTEDNESS

MassMutual holds the Trust's \$12,000,000 Senior Fixed Rate Convertible Note (the "Note") issued by the Trust in 1995. The Note, as amended, is due December 13, 2011 and accrues interest at 5.80% per annum. MassMutual, at its option, can convert the principal amount of the Note into common shares. The dollar amount of principal would be converted into an equivalent dollar amount of common shares based upon the average price of the common shares for ten business days prior to the notice of conversion. For the year ended December 31, 2010, the Trust incurred total interest expense on the Note of \$696,000.

The Trust may redeem the Note, in whole or in part, at the principal amount proposed to be redeemed together with the accrued and unpaid interest thereon through the redemption date plus a Make Whole Premium. The Make Whole Premium equals the excess of (i) the present value of the scheduled payments of principal and interest which the Trust would have paid but for the proposed redemption, discounted at the rate of interest of U.S. Treasury obligations whose maturity approximates that of the Note plus 0.50% over (ii) the principal of the Note proposed to be redeemed.

5. PURCHASES AND SALES OF INVESTMENTS

FOR THE YEAR ENDED
12/31/2010

| | COST OF INVESTMENTS ACQUIRED | PROCEEDS FROM SALES OR MATURITIES |
|---------------------------------|------------------------------------|--|
| Corporate restricted securities | \$ 23,069,419 | \$ 20,772,712 |
| Corporate public securities | 7,082,540 | 10,101,407 |

The aggregate cost of investments is substantially the same for financial reporting and federal income tax purposes as of December 31, 2010. The net unrealized depreciation of investments for financial reporting and federal tax purposes as of December 31, 2010 is \$10,055,834 and consists of \$10,103,926 appreciation and \$20,159,760 depreciation.

Net unrealized depreciation of investments on the Statement of Assets and Liabilities reflects the balance net of a deferred tax accrual of \$264,465 on net unrealized gains on the MMPI Subsidiary Trust.

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MassMutual Participation Investors 2010 ANNUAL REPORT

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

6. QUARTERLY RESULTS OF INVESTMENT OPERATIONS (UNAUDITED)

| | MARCH 31, 2010 | |
|--|--------------------|-----------|
| | AMOUNT | PER SHARE |
| | ----- | ----- |
| Investment income | \$ 2,911,112 | |
| Net investment income | 2,361,286 | \$ 0.24 |
| Net realized and unrealized gain on investments (net of taxes) | 142,746 | 0.01 |
| | JUNE 30, 2010 | |
| | AMOUNT | PER SHARE |
| | ----- | ----- |
| Investment income | \$ 3,007,150 | |
| Net investment income | 2,444,394 | \$ 0.24 |
| Net realized and unrealized gain on investments (net of taxes) | 3,134,736 | 0.32 |
| | SEPTEMBER 30, 2010 | |
| | AMOUNT | PER SHARE |
| | ----- | ----- |
| Investment income | \$ 3,102,390 | |
| Net investment income | 2,512,502 | \$ 0.25 |
| Net realized and unrealized gain on investments (net of taxes) | 5,301,577 | 0.53 |
| | DECEMBER 31, 2010 | |
| | AMOUNT | PER SHARE |
| | ----- | ----- |
| Investment income | \$ 3,618,008 | |
| Net investment income | 2,948,246 | \$ 0.29 |
| Net realized and unrealized gain on investments (net of taxes) | 966,555 | 0.09 |

7. AGGREGATE REMUNERATION PAID TO OFFICERS, TRUSTEES, AND THEIR AFFILIATED PERSONS

For the year ended December 31, 2010, the Trust paid its Trustees aggregate remuneration of \$208,050. During the year, the Trust did not pay any compensation to any of its Trustees who are "interested persons" (as defined by the 1940 Act) of the Trust. The Trust classifies Messrs. Noreen and Joyal as "interested persons" of the Trust.

All of the Trust's officers are employees of Babson Capital. Pursuant to the Contract, the Trust does not compensate its officers who are employees of Babson Capital (except for the Chief Compliance Officer of the Trust unless assumed by Babson Capital). For the year ended December 31, 2010, Babson Capital paid the compensation of the Chief Compliance Officer of the Trust.

Mr. Noreen, one of the Trust's Trustees, is an "affiliated person" (as defined by the 1940 Act) of MassMutual and Babson Capital.

The Trust did not make any payments to Babson Capital for the year ended December 31, 2010, other than amounts payable to Babson Capital pursuant to the Contract.

8. CERTIFICATIONS

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As required under New York Stock Exchange ("NYSE") Corporate Governance Rules, the Trust's principal executive officer has certified to the NYSE that he was not aware, as of the certification date, of any violation by the Trust of the NYSE's Corporate Governance listing standards. In addition, as required by Section 302 of the Sarbanes-Oxley Act of 2002 and related SEC rules, the Trust's principal executive and principal financial officers have made quarterly certifications, included in filings with the Securities and Exchange Commission on Forms N-CSR and N-Q, relating to, among other things, the Trust's disclosure controls and procedures and internal control over financial reporting, as applicable.

9. SUBSEQUENT EVENTS

The Trust has evaluated the possibility of subsequent events existing in this report through February 25, 2011. The Trust has determined that there are no material events that would require recognition or disclosure in this report through this date.

MassMutual Participation Investors 2010 ANNUAL REPORT

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

KPMG LOGO

KPMG LLP
Two Financial Center
60 South Street
Boston, MA 02111

Telephone +1 617 988 1000
Fax +1 617 507 8321
Internet www.us.kpmg.com

The Shareholders and Board of Trustees of MassMutual Participation Investors

We have audited the accompanying consolidated statement of assets and liabilities of MassMutual Participation Investors (the "Trust"), including the consolidated schedule of investments, as of December 31, 2010, and the related consolidated statements of operations and cash flows for the year then ended, the consolidated statements of changes in net assets for each of the years in the two-year period then ended, and the consolidated financial highlights for each of the years in the five-year period then ended. These consolidated financial statements and consolidated financial highlights are the responsibility of the Trust's management. Our responsibility is to express an opinion on these consolidated financial statements and consolidated financial highlights based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements and financial highlights are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our procedures included confirmation of securities owned as of December 31, 2010 by correspondence with the custodian or by other appropriate auditing procedures. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements and consolidated financial highlights referred to above present fairly, in all material respects, the financial position of MassMutual Participation Investors as of December 31, 2010, the results of its consolidated statements of operations and cash flow for the year then ended, changes in its net assets for each of the years in the two year period then ended, and the consolidated financial highlights for each of the years in the five year period then ended, in conformity with U.S. generally accepted accounting principles.

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KPMG LLP

Boston, Massachusetts
February 25, 2011

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INTERESTED TRUSTEES

| NAME (AGE), ADDRESS | POSITION WITH THE TRUST | OFFICE TERM/LENGTH OF TIME SERVED | PRINCIPAL OCCUPATIONS DURING PAST 5 YEARS | PORTFOLIO OVERSEEN IN FUND COMPLEX |
|---|---|--------------------------------------|---|---|
| CLIFFORD M. NOREEN* (53) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Trustee (since 2009) Chairman (since 2009) | Term expires 2012 | President (since 2008), Vice Chairman (2007-2008), Member of the Board of Managers (since 2006), Managing Director (since 2000), Babson Capital; President (2005-2009), Vice President (1993-2005) of the Trust. | 2 |

* Mr. Noreen is classified as an "interested person" of each Trust and Babson Capital (as defined by the Investment Act of 1940, as amended) because of his position as an officer of each Trust and President of Babson Capital.

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INTERESTED TRUSTEES

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| NAME (AGE), ADDRESS | POSITION WITH THE TRUST | OFFICE TERM/LENGTH OF TIME SERVED | PRINCIPAL OCCUPATIONS DURING PAST 5 YEARS | PORTFOLIO OVERSEEN IN FUND COMPLEX |
|--|-------------------------------|--------------------------------------|--|---|
| ROBERT E. JOYAL* (66) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Trustee (since 2003) | Term expires 2013 | President (2001-2003) of Babson Capital. | 67 |

* Mr. Joyal retired as President of Babson Capital in June 2003. In addition and as noted above, Mr. Joyal is a director of Jefferies Group, Inc., which has a wholly owned broker-dealer subsidiary that may execute portfolio transactions and/or engage in principal transactions with the Trust, other investment companies advised by Babson Capital or any other advisory accounts over which Babson Capital has brokerage placement discretion. Accordingly, the Trust has determined to classify Mr. Joyal as an "interested person" of the Trust and Babson Capital (as defined in the Investment Company Act of 1940, as amended).

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INDEPENDENT TRUSTEES

| NAME (AGE), ADDRESS | POSITION WITH THE TRUST | OFFICE TERM/LENGTH OF TIME SERVED | PRINCIPAL OCCUPATIONS DURING PAST 5 YEARS | PORTFOLIO OVERSEEN IN FUND COMPLEX |
|---|-------------------------------|--------------------------------------|--|---|
| WILLIAM J. BARRETT (71) MassMutual | Trustee (since 2006) | Term expires 2012 | President (since 2010), W J Barrett Associates, Inc.; President (2002-2010), | 2 |

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Participation Investors
 1500 Main Street
 Suite 600, P.O. Box 15189
 Springfield, MA 01115-5189

Barrett-Gardner Associates,
 Inc.

| | | | | |
|--|-------------------------|----------------------|--|---|
| DONALD E. BENSON (80) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Trustee (since 1988) | Term expires 2013 | Executive Vice President and Director (since 1992), Marquette Financial Companies (financial services); Partner (since 1996), Benson Family Limited Partnership No. 1 and Benson Family Limited Partnership No. 2 (investment partnerships). | 2 |
|--|-------------------------|----------------------|--|---|

 MassMutual Participation Investors 2010 ANNUAL REPORT

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INDEPENDENT TRUSTEES

| NAME (AGE), ADDRESS | POSITION WITH THE TRUST | OFFICE TERM/LENGTH OF TIME SERVED | PRINCIPAL OCCUPATIONS DURING PAST 5 YEARS | PORTFOLIO OVERSEEN IN FUND COMPLEX |
|------------------------|-------------------------------|--------------------------------------|--|---|
|------------------------|-------------------------------|--------------------------------------|--|---|

| | | | | |
|--|-------------------------|----------------------|--|---|
| MICHAEL H. BROWN (54) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Trustee (since 2005) | Term expires 2011 | Private Investor; and Managing Director (1994-2005), Morgan Stanley. | 2 |
|--|-------------------------|----------------------|--|---|

| | | | | |
|---|-------------------------|----------------------|--|---|
| DONALD GLICKMAN (77) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Trustee (since 1992) | Term expires 2013 | Chairman (since 1992), Donald Glickman and Company, Inc. (private investments); and Partner (since 1992), J.F. Lehman & Co. (private investments). | 2 |
|---|-------------------------|----------------------|--|---|

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INDEPENDENT TRUSTEES

| NAME (AGE), ADDRESS | POSITION WITH THE TRUST | OFFICE TERM/LENGTH OF TIME SERVED | PRINCIPAL OCCUPATIONS DURING PAST 5 YEARS | PORTFOLIO OVERSEEN IN FUND COMPLEX |
|--|---------------------------------|--------------------------------------|---|---|
| <p>MARTIN T. HART (75) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189</p> | <p>Trustee (since 1991)</p> | <p>Term expires 2012</p> | <p>Private Investor; and President and Director (since 1983), H Investment Company LLC (family partnership).</p> | <p>2</p> |
| <p>CORINE T. NORGAARD (73) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189</p> | <p>Trustee (since 1998)</p> | <p>Term expires 2011</p> | <p>President and Owner (since 2009), Retirement Options (trains and certifies retirement coaches); President (2004- 2005), Thompson Enterprises Real Estate Investment.</p> | <p>34</p> |
| <p>MALEYNE M. SYRACUSE (54) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189</p> | <p>Trustee (since 2007)</p> | <p>Term expires 2011</p> | <p>Private Investor; Managing Director (2000- 2007), JP Morgan Securities, Inc. (investments and banking)</p> | <p>2</p> |

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 MassMutual Participation Investors 2010 ANNUAL REPORT

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OFFICERS OF THE TRUST

| NAME (AGE), ADDRESS | POSITION WITH THE TRUST | OFFICE TERM/LENGTH OF TIME SERVED | PRINCIPAL OCCUPATIONS DURING PAST 5 YEARS |
|--|--|--------------------------------------|---|
| MICHAEL L. KLOFAS (50) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | President | Since 2009 | President (since 2009), Vice Pres Trust; Managing Director (since 2009), Vice Pres Subsidiary Trust and MMPI Subsidiary Trust (1998-2009), Vice President (1998-2009) Investors. |
| CHRISTOPHER A. DEFRANCIS (44) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Vice President and Secretary | Since 2010 | Vice President and Secretary (since 2010) of the Trust; Secretary and Managing Director (since 2008-2010) of the Trust; Counsel, Assistant Secretary and Assistant Secretary and Counsel Capital; Counsel (2001-2009), Mas Insurance Company; Vice President and Assistant Secretary (2009-2010) and MMPI Subsidiary Trust; and Vi (since 2010) and Associate Secret Corporate Investors. |
| JAMES M. ROY (48) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Vice President and Chief Financial Officer | Since 2005 | Vice President and Chief Financial Officer (2003-2005), and Associ of the Trust; Managing Director (since 2000-2005) of Babson Capital; Tr Treasurer (since 2005), and Contr Subsidiary Trust and MMPI Subsidiary Trust and Chief Financial Off Treasurer (2003-2005) and Associa MassMutual Corporate Investors. |
| JOHN T. DAVITT, JR. (43) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Comptroller | Since 2001 | Comptroller (since 2001) of the T of Babson Capital; Controller (si Trust and MMPI Subsidiary Trust; (since 2001), MassMutual Corporate Inves |
| MELISSA M. LAGRANT (37) MassMutual Participation Investors 1500 Main Street P.O. Box 15189 Springfield, MA 01115-5189 | Chief Compliance Officer | Since 2006 | Chief Compliance Officer (since 2006) of Babson C Director (since 2005) of Babson C Senior Compliance Trading Manager Sayles & Company, L.P.; Assistant Risk Management Group (2002-2003) President-Investment Compliance (since 2006) Investments/Deutsche Asset Manage |

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Officer (since 2006), MassMutual

DANIEL J. FLORENCE (38)
MassMutual
Participation Investors
1500 Main Street
P.O. Box 15189
Springfield, MA 01115-5189

Treasurer Since 2008

Treasurer (since 2008) and Associate of the Trust; Associate Director (2000-2008) of Babson Capital; and Associate Treasurer (2006-2008) of MassMutual Participation Investors.

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MassMutual Participation Investors 2010 ANNUAL REPORT

MEMBERS OF THE BOARD OF TRUSTEES

LEFT TO RIGHT:

Donald Glickman
Chairman,
Donald Glickman & Company, Inc.

Robert E. Joyal
Retired President,
Babson Capital Management LLC

William J. Barrett
President,
W J Barrett Associates, Inc.

Michael H. Brown*
Private Investor

Donald E. Benson*
Executive Vice President
and Director,
Marquette Financial Companies

Dr. Corine T. Norgaard*
President,
Retirement Options

Clifford M. Noreen
President,
Babson Capital Management LLC

Martin T. Hart
Private Investor

Maleyne M. Syracuse
Private Investor

*Member of the Audit Committee

DIVIDEND REINVESTMENT AND CASH PURCHASE PLAN

MassMutual Participation Investors offers a Dividend Reinvestment and Cash Purchase Plan. The Plan provides a simple and automatic way for shareholders to add to their holdings in the Trust through the receipt of dividend shares issued by the Trust or through the reinvestment of cash dividends in Trust shares purchased in the open market. The dividends of each shareholder will be automatically reinvested in the Trust by Shareholder Financial Services Inc., the Transfer Agent, in accordance with the Plan, unless such shareholder elects not to participate by providing written notice to the Transfer Agent. A shareholder may terminate his or her participation by notifying the Transfer Agent in writing.

Participating shareholders may also make additional contributions to the Plan from their own funds. Such contributions may be made by personal check or other means in an amount not less than \$100 nor more than \$5,000 per quarter. Cash contributions must be received by the Transfer Agent at least five days (but no more than 30 days) before the payment date of a dividend or distribution.

Whenever the Trust declares a dividend payable in cash or shares, the Transfer Agent, acting on behalf of each participating shareholder, will take the dividend in shares only if the net asset value is lower than the market price plus an estimated brokerage commission as of the close of business on the valuation day. The valuation day is the last day preceding the day of dividend payment. When the dividend is to be taken in shares, the number of shares to be received is determined by dividing the cash dividend by the net asset value as of the close of business on the valuation date or, if greater than net asset value, 95% of the closing share price. If the net asset value of the shares is higher than the market value plus an estimated commission, the Transfer Agent, consistent with obtaining the best price at execution, will buy shares on the open market at current prices promptly after the dividend payment date.

The reinvestment of dividends does not, in any way, relieve participating shareholders of any federal, state or local

OFFICERS

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Clifford M. Noreen
Chairman

Michael L. Klofas
President

James M. Roy
Vice President & Chief
Financial Officer

Christopher A. DeFrancis
Vice President
& Secretary

Jill A. Fields
Vice President

Michael P. Hermsen
Vice President

Mary Wilson Kibbe
Vice President

Richard E. Spencer, II
Vice President

Daniel J. Florence
Treasurer

John T. Davitt, Jr.
Comptroller

Melissa M. LaGrant
Chief Compliance Officer

tax. For federal income tax purposes, the amount reportable in respect of a dividend received in newly-issued shares of the Trust will be the fair market value of the shares received, which will be reportable as ordinary income and/or capital gains.

As compensation for its services, the Transfer Agent receives a fee of 5% of any dividend and cash contribution (in no event in excess of \$2.50 per distribution per shareholder.)

Any questions regarding the Plan should be addressed to Shareholder Financial Services, Inc., Agent for MassMutual Participation Investors' Dividend Reinvestment and Cash Purchase Plan, P.O. Box 173673, Denver, CO 80217-3673.

PI5511

ITEM 2. CODE OF ETHICS.

The Registrant adopted a Code of Ethics for Senior Financial Officers (the "Code") on October 17, 2003, which is available on the Registrant's website at www.babsoncapital.com/mpv. During the period covered by this Form N-CSR, there were no amendments to, or waivers from, the Code.

ITEM 3. AUDIT COMMITTEE FINANCIAL EXPERT.

The Registrant's Board of Trustees has determined that Mr. Donald E. Benson, a Trustee of the Registrant and a member of its Audit Committee, is an audit committee financial expert. Mr. Benson is "independent" for purposes of this Item 3 as required by applicable regulation.

ITEM 4. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

Fees Billed to the Registrant

| | KPMG LLP Year Ended December 31, 2010 | KPMG LLP Year Ended December 31, 2009 |
|--------------------|--|--|
| | ----- | ----- |
| Audit Fees | \$ 52,500 | \$ 50,000 |
| Audit-Related Fees | 0 | 0 |
| Tax Fees | 44,100 | 42,000 |
| All Other Fees | 0 | 0 |
| | ----- | ----- |
| Total Fees | \$ 96,600 | \$ 92,000 |
| | ===== | ===== |

Non-Audit Fees Billed to Babson Capital and MassMutual

| | KPMG LLP Year Ended December 31, 2010 | KPMG LLP Year Ended December 31, 2009 |
|--------------------|--|--|
| | ----- | ----- |
| Audit-Related Fees | \$ 937,100 | \$ 1,108,792 |
| Tax Fees | 47,100 | 25,500 |
| All Other Fees | 0 | 0 |
| | ----- | ----- |
| Total Fees | \$ 984,200 | \$ 1,134,292 |
| | ===== | ===== |

The category "Audit-Related Fees" reflects fees billed by KPMG for various non-audit and non-tax services rendered to the Registrant, Babson Capital Management LLC ("Babson Capital"), and Massachusetts Mutual Life Insurance Company ("MassMutual"), such as SAS 70 review, IFRS consulting and

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agreed upon procedures reports. Preparation of Federal, state and local income tax returns and tax compliance work are representative of the fees reported in the "Tax Fees" category. The category "All Other Fees" represents fees billed by KPMG for consulting rendered to Babson Capital and MassMutual. The Sarbanes-Oxley Act of 2002 and its implementing regulations allows the Registrant's Audit Committee to establish a pre-approval policy for certain services rendered by the Registrant's independent accountants. During 2009, the Registrant's Audit Committee approved all of the services rendered to the Registrant by KPMG and did not rely on such a pre-approval policy for any such services.

The Audit Committee has also reviewed the aggregate fees billed for professional services rendered by KPMG for 2009 and 2010 for the Registrant and for the non-audit services provided to Babson Capital, and Babson Capital's parent, MassMutual. As part of this review, the Audit Committee considered whether the provision of such non-audit services was compatible with maintaining the principal accountant's independence.

The 2009 fees billed represent final 2009 amounts, which may differ from the preliminary figures available as of the filing date of the Registrant's 2010 Annual Form N-CSR and includes, among other things, fees for services that may not have been billed as of the filing date of the Registrant's 2010 Annual Form N-CSR, but are now properly included in the 2009 fees billed to the Registrant, Babson Capital and MassMutual.

ITEM 5. AUDIT COMMITTEE OF LISTED REGISTRANTS.

The Registrant maintains an Audit Committee composed exclusively of Trustees of the Registrant who qualify as "independent" Trustees under the current listing standards of the New York Stock Exchange and the rules of the U.S. Securities and Exchange Commission. The Audit Committee operates pursuant to a written Audit Committee Charter, which is available (1) on the Registrant's website, www.babsoncapital.com/mpv; and (2) without charge, upon request, by calling, toll-free 866-399-1516. The current members of the Audit Committee are Donald E. Benson, Michael H. Brown and Corine T. Norgaard.

ITEM 6. SCHEDULE OF INVESTMENTS

A schedule of investments for the Registrant is included as part of this report to shareholders under Item 1 of this Form N-CSR.

ITEM 7. DISCLOSURE OF PROXY VOTING POLICIES AND PROCEDURES FOR CLOSED-END MANAGEMENT INVESTMENT COMPANIES.

The Registrant's Board of Trustees has delegated proxy voting responsibilities relating to voting securities held by the Registrant to its investment adviser, Babson Capital Management LLC ("Babson Capital"). A summary of Babson Capital's proxy voting policies and procedures is set forth below.

Summary of Babson Capital's Proxy Voting Policy

Babson Capital views the voting of proxies as an integral part of its investment management responsibility and believes, as a general principle, that proxies should be acted upon (voted or abstained) solely in the best interest of its clients (i.e. in a manner it believes is most likely to enhance the economic value of the underlying securities held in client accounts). To implement this general principle, Babson Capital has engaged a proxy service provider (the "Service Provider"). The Service Provider is responsible for processing and maintaining records of proxy votes. In addition, the Service Provider has retained the services of an independent third party research provider (the "Research Provider") to provide research and recommendations on proxy voting. It

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is Babson Capital's Proxy Voting Policy to generally vote proxies in accordance with the recommendations of the Research Provider, or, in cases where the Research Provider has not made any recommendations with respect to a proxy, in accordance with the Research Provider's proxy voting guidelines (the "Guidelines"). If a proxy involves an issue on which the Research Provider has not made a recommendation or has not addressed in the Guidelines, it will be analyzed on a case-by-case basis.

Babson Capital recognizes, however, that there may be times when Babson Capital determines that it may be in the best interest of clients holding the securities to (1) vote against the Research Provider's recommendations or (2) in cases where the Research Provider has not provided Babson Capital with any recommendations with respect to a proxy, vote against the Research Provider's Guidelines. Babson Capital may vote, in whole or in part, against the Research Provider's recommendations or the Research Provider's Guidelines, as applicable. The procedures set forth in the Proxy Voting Policy are designed to ensure that votes against the Research Provider's recommendations or Guidelines have been made in the best interest of clients and are not the result of any material conflict of interest (a "Material Conflict"). For purposes of the Proxy Voting Policy, a Material Conflict shall mean any position, relationship or interest, financial or otherwise, of Babson Capital (or any person authorized under the Proxy Voting Policy to vote proxies on behalf of Babson Capital) that would or could reasonably be expected to affect Babson Capital's (or such person's) independence or judgment concerning how to vote proxies.

Summary of Babson Capital's Proxy Voting Procedures

Babson Capital will vote all client proxies for which it has proxy voting discretion in accordance with the Research Provider's recommendations or Guidelines, unless (i) a person authorized by the Best Execution and Proxy Committee (each a "Proxy Analyst"), the Best Execution and Proxy Committee or a designated member of the Best Execution and Proxy Committee, as applicable, determines that it is in the client's best interest to vote against the Research Provider's recommendation or Guidelines or (ii) Babson Capital is unable or determines not to vote a proxy in accordance with the Proxy Voting Policy. In these cases: if (i) a Proxy Analyst recommends that a proxy should be voted against the Research Provider's recommendation or Guidelines, (ii) no other Proxy Analyst reviewing such proxy disagrees with such recommendation, and (iii) no known Material Conflict is identified by the Proxy Analyst(s) or the Proxy Administrator, the Proxy Administrator will vote the proxy or post the proxy for voting in accordance with the Proxy Analyst's recommendation. Otherwise, the proxy is to be submitted to a member of the Best Execution and Proxy Committee, who shall determine how to vote the proxy unless (i) the Proxy Analyst or Proxy Administrator has identified a Babson Capital Material Conflict or (ii) said Best Execution and Proxy Committee member has identified a Material Conflict personal to him or herself or a Babson Capital Material Conflict. In such cases, the proxy shall be submitted to the Best Execution and Proxy Committee, which may authorize a vote against the Research Provider's recommendation or Guidelines only if the Best Execution and Proxy Committee determines that such vote is in the client's best interests.

Nothing herein shall preclude Babson Capital from splitting a vote among different advisory clients in those cases where Babson Capital deems it appropriate.

No associate, officer, director or board of managers member of Babson Capital or its affiliates (other than those assigned such responsibilities under the Proxy Voting Policy) may influence how Babson Capital votes client proxies, unless such person has been requested to provide such assistance by a Proxy Analyst or Best Execution and Proxy Committee member and has disclosed any known Material Conflict. Any pre-vote communications prohibited by the Proxy Voting

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Policy shall be reported to a Best Execution and Proxy Committee member prior to voting and to Babson Capital's Chief Compliance Officer or General Counsel.

Obtaining a Copy of the Proxy Voting Policy

Clients may obtain a copy of Babson Capital's Proxy Voting Policy and information about how Babson Capital voted proxies related to their securities, free of charge, by contacting the Chief Compliance Officer, Babson Capital Management LLC, Independence Wharf, 470 Atlantic Avenue, Boston, MA 02210, or calling toll-free, 1-877-766-0014.

ITEM 8. PORTFOLIO MANAGERS OF CLOSED-END MANAGEMENT INVESTMENT COMPANIES.

The following disclosure item is made as of the date of this Form N-CSR unless otherwise indicated.

PORTFOLIO MANAGER. Michael L. Klofas serves as the President of the Registrant (since 2009) and as one of its Portfolio Managers. Mr. Klofas began his service to the Registrant in 1998 as a Vice President. With over 25 years of industry experience, Mr. Klofas is a Managing Director of the Mezzanine and Private Equity Group of Babson Capital Management LLC ("Babson Capital"). Mr. Klofas joined MassMutual in 1988. Prior to joining MassMutual, he spent two years at a small venture capital firm and two years at a national public accounting firm. At MassMutual and then Babson Capital, Mr. Klofas has analyzed and invested in traditional private placements and high yield public bonds. He also spent four years leading Babson Capital's workout and restructuring activities. Since 1993, he has focused on originating, analyzing, structuring and documenting mezzanine and private equity investments. Mr. Klofas holds a B.A. from Brandeis University and an M.B.A. from Babson College as well as a Certified Public Accountant designation. Mr. Klofas also presently serves as President of MassMutual Participation Investors, another closed-end management investment company advised by Babson Capital.

PORTFOLIO MANAGEMENT TEAM. Mr. Klofas has primary responsibility for overseeing the investment of the Registrant's portfolio, with the day-to-day investment management responsibility of the Registrant's portfolio being shared with the following Babson Capital investment professionals (together with the Portfolio Manager, the "Portfolio Team").

Michael P. Hermsen is a Vice President of the Registrant and a Managing Director of Babson Capital who oversees the Private Finance Group and manages Babson Capital's Mezzanine Investment and Private Equity Investments Team which is responsible for finding, analyzing, negotiating and servicing mezzanine private placement securities for the Registrant.

Mr. Hermsen joined MassMutual in 1990 and has been an officer of the Registrant since 1998. Previously, he worked at Teachers Insurance and Annuity Association where he was a generalist private placement analyst. At MassMutual and then Babson Capital, Mr. Hermsen has analyzed and invested in traditional private placements, high yield public and private bonds, and leveraged bank loans. He has also been responsible for managing a small portfolio of distressed investments. Since 1993, he has focused on originating, analyzing, structuring and documenting mezzanine and private equity investments. He holds a B.A. from Bowdoin College and an M.B.A. from Columbia University.

Mr. Spencer is a Vice President of the Registrant and a Managing Director of Babson Capital who also manages Babson Capital's Mezzanine and Private Equity Investments Team. Mr. Spencer joined MassMutual in 1989 after three years as a corporate loan analyst at a major New England bank. He has been an officer of the Registrant since 2002. At MassMutual and then Babson Capital, Mr. Spencer has analyzed and invested in traditional private placements, high

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yield public and private bonds, leveraged bank loans, mezzanine debt and private equity. From 1993 to 1999, he was the lead restructuring professional at Babson Capital. Since 1999, Mr. Spencer has been focused on the origination, analysis, structuring and documentation of mezzanine and private equity investments. He holds a B.A. from Bucknell University and an M.B.A. from the State University of New York at Buffalo.

Jill A. Fields is responsible for the day-to-day management of the Registrant's public high yield and investment grade fixed income portfolio. Ms. Fields has been a Vice President of the Registrant since 2006. Ms. Fields is a Managing Director of Babson Capital with over 20 years of industry experience in high yield total return structured credit leveraged loans and private placement investing. Prior to joining Babson Capital in 1997, she was a credit analyst at Shawmut National Bank, and the Director of Corporate Bond Research at Hartford Life Insurance Group. Ms. Fields holds a B.S. from Pennsylvania State University and an M.B.A. from the University of Connecticut.

OTHER ACCOUNTS MANAGED BY THE PORTFOLIO TEAM. The members of the Registrant's portfolio Team also have primary responsibility for the day-to-day management of other Babson Capital advisory accounts, including, among others, closed-end and open-end investment companies, private investment funds, MassMutual-affiliated accounts, as well as separate accounts for institutional clients. These advisory accounts are identified below.

| PORTFOLIO TEAM | ACCOUNT CATEGORY | TOTAL NUMBER OF ACCOUNTS | NUMBER OF ACCOUNTS WITH APPROXIMATE TOTAL ASSET SIZE (A) | APPROXIMATE ASSET SIZE OF PERFORMANCE-BASED ADVISORY FEE | PERFORMANCE-BASED ADVISORY FEE ACCOUNTS (A) |
|------------------------|--------------------------------------|--------------------------|--|--|---|
| Clifford M. Noreen (B) | Registered Investment Companies | 1 | \$237.6 million | 0 | N/A |
| | Other Pooled Investment Vehicles | 1 | \$4.3 million | 1 | \$4.3 million |
| | Other Accounts | 0 | N/A | 0 | N/A |
| Jill A. Fields | Registered Investment Companies | 4 | \$518.5 million | 0 | N/A |
| | Other Pooled Investment Vehicles | 1 | \$45 million | 1 | \$45 million |
| | Other Accounts (C) | 5 | \$597.3 million | 0 | N/A |
| Michael P. Hermsen | Registered Investment Companies | 1 | \$237.6 million | 0 | N/A |
| | Other Pooled Investment Vehicles (D) | 5 | \$1 billion | 5 | \$1 billion |

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| PORTFOLIO TEAM | ACCOUNT CATEGORY | TOTAL NUMBER OF ACCOUNTS | NUMBER OF ACCOUNTS WITH APPROXIMATE TOTAL ASSET SIZE (A) | APPROXIMATE ASSET SIZE OF PERFORMANCE-BASED ADVISORY FEE | PERFORMANCE-BASED ADVISORY FEE ACCOUNTS (A) |
|------------------------|--------------------------------------|--------------------------|--|--|---|
| | Other Accounts | 0 | N/A | 0 | N/A |
| Michael L. Klofas | Registered Investment Companies | 1 | \$237.6 million | 0 | N/A |
| | Other Pooled Investment Vehicles (D) | 5 | \$1 billion | 5 | \$1 billion |
| | Other Accounts | 0 | N/A | 0 | N/A |
| Richard E. Spencer, II | Registered Investment Companies | 1 | \$237.6 million | 0 | N/A |
| | Other Pooled Investment Vehicles (D) | 5 | \$1 billion | 5 | \$1 billion |
| | Other Accounts | 0 | N/A | 0 | N/A |

(A) Account asset size has been calculated as of December 31, 2010.

(B) Mr. Noreen, as head of Babson Capital's Fixed Income Group, has overall responsibility for all corporate credit related investments, including public and private bonds, as well as structured credit products managed by Babson Capital. Except for the accounts noted in the table above, Mr. Noreen is not primarily responsible for the day-to-day management of the other accounts managed by Babson Capital's Fixed Income Group.

(C) Ms. Fields manages the high yield sector of the general investment account of Massachusetts Mutual Life Insurance Company and C.M. Life Insurance Company; however these assets are not represented in the table above.

(D) Messrs. Hermsen, Klofas and Spencer manage private placement mezzanine debt securities for the general investment account of Massachusetts Mutual Life Insurance Company and C.M. Life Insurance Company; however these assets are not represented in the table above.

MATERIAL CONFLICTS OF INTEREST. The potential for material conflicts of interest may exist as the members of the Portfolio Team have responsibilities for the day-to-day management of multiple advisory accounts. These conflicts may be heightened to the extent the individual, Babson Capital and/or an affiliate has an investment in one or more of such accounts or an interest in the performance of one or more of such accounts. Babson Capital has identified (and summarized below) areas where material conflicts of interest are most likely to

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arise, and has adopted policies and procedures that it believes are reasonably designed to address such conflicts.

Babson Capital or its affiliates, including MassMutual and its affiliates, may from time to time, acting as principal, buy securities or other investments for itself from or sell securities or other investments it owns to its advisory clients. Likewise, Babson Capital may either directly or on behalf of MassMutual, purchase and/or hold securities or other investments that are subsequently sold or transferred to advisory clients. Babson Capital has a conflict of interest in connection with a transaction where it or an affiliate is acting as principal since it may have an incentive to favor itself or its affiliates over its advisory clients in connection with the transaction. To address these conflicts of interest, Babson Capital has adopted certain policies and procedures, including but not limited to policies and procedures on transactions with affiliates. Any such transaction will be consistent with Babson Capital's fiduciary obligation to act in the best interests of its clients, including its ability to obtain best execution in connection with the transaction, and will be in compliance with applicable legal and regulatory requirements.

Babson Capital may effect cross-trades on behalf of its advisory clients whereby one advisory client buys securities or other investments from or sells securities or other investments to another advisory client. Babson Capital may also effect cross-transactions involving advisory accounts or funds in which it or its affiliates, including MassMutual, and their respective employees, have an ownership interest or for which Babson Capital is entitled to earn a performance or incentive fee. As a result, Babson Capital has a conflict of interest in connection with the cross-transaction since it may have an incentive to favor the advisory client or fund in which it or its affiliate has an ownership interest and/or is entitled to a performance or incentive fee. To address these conflicts of interest, Babson Capital has adopted certain policies and procedures, including but not limited to policies and procedures on transactions with affiliates. Any such cross-transaction will be consistent with Babson Capital's fiduciary obligation to act in the best interests of each of its advisory clients, including its ability to obtain best execution for each advisory client in connection with the cross-trade transaction, and will be in compliance with applicable legal and regulatory requirements. Babson Capital will not receive a commission or any other remuneration (other than its advisory fee) for effecting cross-transactions between advisory clients.

Babson Capital may invest client assets in securities or other investments that are also held by (i) Babson Capital or its affiliates, including MassMutual, (ii) other Babson Capital advisory accounts, (iii) funds or accounts in which Babson Capital or its affiliates or their respective employees have an ownership or economic interest or (iv) employees of Babson Capital or its affiliates. Babson Capital may also, on behalf of its advisory clients, invest in the same or different securities or instruments of issuers in which (i) Babson Capital or its affiliates, including MassMutual, (ii) other Babson Capital advisory accounts, (iii) funds or accounts in which Babson Capital, its affiliates, or their respective employees have an ownership or economic interest or (iv) employees of Babson Capital or its affiliates, have an ownership interest as a holder of the debt, equity or other instruments of the issuer. Babson Capital has a conflict of interest in connection with any such transaction since investments by its advisory clients may directly or indirectly benefit Babson Capital and/or its affiliates and employees by potentially increasing the value of the securities or instruments it holds in the issuer. Any investment by Babson Capital on behalf of its advisory clients will be consistent with its fiduciary obligations to act in the best interests of its advisory clients, and otherwise be consistent with such clients' investment objectives and restrictions.

Babson Capital or its affiliates may also recommend that clients invest

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in registered or unregistered investment companies, including private investment funds such as hedge funds, private equity funds or structured funds, (i) advised by Babson Capital or an affiliate, (ii) in which Babson Capital, an affiliate or their respective employees has an ownership or economic interest or (iii) with respect to which Babson Capital or an affiliate has an interest in the entity entitled to receive the fees paid by such funds. Babson Capital has a conflict of interest in connection with any such recommendation since it may have an incentive to base its recommendation to invest in such investment companies or private funds on the fees that Babson Capital or its affiliates would earn as a result of the investment by its advisory clients in the investment companies or private funds. Any recommendation to invest in a Babson Capital advised fund or other investment company will be consistent with Babson Capital's fiduciary obligations to act in the best interests of its advisory clients, consistent with such clients' investment objectives and restrictions. Babson Capital may, in certain limited circumstances, offer to clients that invest in private investment funds that it advises an equity interest in entities that receive advisory fees and carried profits interest from such funds.

Babson Capital may permit certain of its portfolio managers and other employees to invest in private investment funds advised by Babson Capital or its affiliates and/or share in the performance or incentive fees received by Babson Capital from such funds. If the portfolio manager or other employee was responsible for both the portfolio management of the private fund and other Babson Capital advisory accounts, such person would have a conflict of interest in connection with investment decisions since the person may have an incentive to direct the best investment ideas, or to allocate trades, in favor of the fund in which he or she is invested or otherwise entitled to share in the performance or incentive fees received from such fund. To address these conflicts of interest, Babson Capital has adopted a policy governing side by side management of private investment funds and other advisory accounts, which policy requires, among others things, that Babson Capital treat each of its advisory clients in a manner consistent with its fiduciary obligations and prohibits Babson Capital from favoring any particular advisory account as a result of the ownership or economic interests of Babson Capital, its affiliates or employees, in such advisory account. Any investment by a Babson Capital employee in one of its private funds is also governed by Babson Capital's employee co-investment policy.

As noted above, Babson Capital's portfolio managers are often responsible for the day-to-day management of multiple accounts, including, among others, separate accounts for institutional clients, closed-end and open-end registered investment companies, and/or private investment funds (such as hedge funds, private equity fund, and structured funds), as well as for proprietary accounts of Babson Capital and its affiliates, including MassMutual and its affiliates. The potential for material conflicts of interest exist whenever a portfolio manager has responsibility for the day-to-day management of multiple advisory accounts. These conflicts may be heightened to the extent a portfolio manager is responsible for managing a proprietary account for Babson Capital or its affiliates or where the portfolio manager, Babson Capital and/or an affiliate has an investment in one or more of such accounts or an interest in the performance of one or more of such accounts (e.g., through the receipt of a performance or incentive fee).

Such potential conflicts include those relating to allocation of investment opportunities. For example, it is possible that an investment opportunity may be suitable for more than one account managed by Babson Capital, but may not be available in sufficient quantities for all accounts to participate fully. Similarly, there may be limited opportunity to sell an investment held by multiple accounts. A conflict arises where the portfolio manager has an incentive to treat an account preferentially because the account pays Babson Capital or its affiliates a performance-based fee or the portfolio manager, Babson Capital or an affiliate has an ownership or other economic

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interest in the account. As noted above, Babson Capital also acts as an investment manager for certain of its affiliates, including MassMutual. These affiliate accounts co-invest jointly and concurrently with Babson Capital's other advisory clients and therefore share in the allocation of such investment opportunities. To address these conflicts of interest associated with the allocation of trading and investment opportunities, Babson Capital has adopted an investment allocation policy and trade allocation procedures that govern the allocation of portfolio transactions and investment opportunities across multiple advisory accounts, including affiliated accounts. In addition, as noted above, to address these conflicts of interest, Babson Capital has adopted a policy governing side-by-side management of private investment funds and other advisory accounts, which policy requires, among others things, that Babson Capital treat each of its advisory clients in a manner consistent with its fiduciary obligations and prohibits Babson Capital from favoring any particular advisory account as a result of the ownership or economic interests of Babson Capital, its affiliates or employees, in such advisory accounts. Any investment by a Babson Capital employee in one of its private funds is also governed by Babson Capital's employee co-investment policy.

Potential material conflicts of interest may also arise related to the knowledge and timing of an account's trades, investment opportunities and broker selection. Babson Capital and its portfolio managers have information about the size, timing and possible market impact of the trades of each account they manage. It is possible that portfolio managers could use this information for their personal advantage and/or the advantage or disadvantage of various accounts which they manage. For example, a portfolio manager could, or cause a favored account to, "front run" an account's trade or sell short a security for an account immediately prior to another accounts sale of that security. To address these conflicts, Babson Capital has adopted policies and procedures and a Code of Ethics governing employees' personal securities transactions, the use of short sales, and side-by-side management of private investment funds and other advisory accounts.

Potential material conflicts of interest may also arise if a trade error occurs in a client account. A trade error is deemed to occur if there is a deviation by Babson Capital from the applicable standard of care in connection with the placement, execution or settlement of a trade for an advisory account that results in (1) Babson Capital purchasing securities not permitted or authorized by a client's investment advisory agreement or otherwise failing to follow a client's specific investment directives; (2) Babson Capital purchasing or selling the wrong security or the wrong amount of securities on behalf of a client's account; or (3) Babson Capital purchasing or selling securities for, or allocating securities to, the wrong client account. When correcting these errors, conflicts of interest between Babson Capital and its advisory accounts may arise as decisions are made on whether to cancel, reverse or reallocate the erroneous trades. In order to address these conflicts, Babson Capital has adopted policies and procedures governing the resolution of trading errors, and will follow these policies and procedures in order to ensure that trade errors are handled promptly and appropriately and that no client account is harmed by an erroneous trade.

With respect to securities transactions for most of the accounts it manages, Babson Capital determines which broker to use to execute each order, consistent with its fiduciary duty to seek best execution of the transaction. Babson Capital manages certain accounts, however, for clients who limit its discretion with respect to the selection of brokers or direct it to execute such client's transaction through a particular broker. In these cases, trades for such an account in a particular security may be placed separately from, rather than aggregated with, those in the same security for other accounts. Placing separate transaction orders for a security may temporarily affect the market price of the security or otherwise affect the execution of the transaction to the possible detriment of one or more of the other account(s) involved. Babson

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Capital has policies and procedures that address best execution and directed brokerage arrangements.

Babson Capital and its portfolio managers or employees may have other actual or potential conflicts of interest in managing an advisory account, and the list above is not a complete description of every conflict of interest that could be deemed to exist.

COMPENSATION. The current Babson Capital compensation and incentive program for investment professionals is designed to attract, motivate and retain high-performing individuals.

To help Babson Capital make informed decisions, Babson Capital participates in annual compensation surveys of investment management firms using McLagan Partners, in addition to other industry specific resources. The firms selected for periodic peer-group comparisons typically have similar asset size or business mix. Annually, a review is conducted of total compensation versus market, to ensure that individual pay is competitive with the defined overall market.

The compensation package for the members of the Portfolio Team is comprised of a market-driven base salary, a performance-driven annual bonus, and discretionary long-term incentives. The performance-driven bonus is based on the performance of the accounts managed by the members of the Portfolio Team relative to appropriate benchmarks, including with respect to the Registrant, to the Russell 2000 Index and Lehman Brothers U.S. Corporate High Yield Index. Performance of the Registrant, like other accounts Portfolio Team members manage, are evaluated on a pre-tax basis, and are reviewed over one and three-year periods, with greater emphasis given to the latter. There are other factors that affect bonus awards to a lesser extent, such as client satisfaction, teamwork, the assets under management, and the overall success of Babson Capital. Such factors are considered as a part of the overall annual bonus evaluation process by the management of Babson Capital.

Long-Term incentives are designed to share with participants the longer-term value created in Babson Capital. Long-term incentives may take the form of deferred cash awards (including deferred cash awards that provide a portfolio manager with the economic equivalent of a "shareholder" interest in Babson Capital by linking the value of the award to a formula which ties to the value of the business), and/or, in the case of a portfolio manager who manages a private investment fund with a performance fee, a deferred cash award or a direct profit sharing interest that results in the portfolio manager receiving amounts based on the amount of the performance fee paid by such fund. These long-term incentives vest over time and are granted annually, based upon the same criteria used to determine the performance-driven annual bonus detailed above. Because the Portfolio Team members are generally responsible for multiple accounts (including the Registrant), they are compensated on the overall performance of the accounts that they manage, rather than a specific account, except for the portion of compensation relating to any performance fee award.

BENEFICIAL OWNERSHIP. As of December 31, 2010, members of the Portfolio Team beneficially owned the following dollar range of equity securities in the Registrant:

| Portfolio Team: | Dollar Range of Beneficially Owned* Equity Securities of the Registrant: |
|-----------------------|--|
| ----- | ----- |
| Clifford M. Noreen | None |
| Jill A. Fields | None |
| Michael P. Hermsen | \$10,001-\$50,000 |
| Michael L. Klofas | None |
| Richard E. Spencer II | None |

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* Beneficial ownership has been determined in accordance with Rule 16a-1(a)(2) under the Securities Exchange Act of 1934, as amended. (Shares "beneficially owned" include the number of shares of the Registrant represented by the value of a Registrant-related investment option under Babson Capital's non-qualified deferred compensation plan for certain officers of Babson Capital (the "Plan"). The Plan has an investment option that derives its value from the market value of the Registrant's shares. However, neither the Plan nor the participation in the Plan has an actual ownership interest in the Registrant's shares.)

ITEM 9. PURCHASES OF EQUITY SECURITIES BY CLOSED-END MANAGEMENT INVESTMENT COMPANY AND AFFILIATED PURCHASERS.

Not applicable for this filing.

ITEM 10. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.

Not applicable for this filing.

ITEM 11. CONTROLS AND PROCEDURES.

- (a) The principal executive officer and principal financial officer of the Registrant evaluated the effectiveness of the Registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940 (the "Act")) as of a date within 90 days of the filing date of this report and based on that evaluation have concluded that such disclosure controls and procedures are effective to provide reasonable assurance that material information required to be disclosed by the Registrant on Form N-CSR is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.
- (b) There were no changes in the Registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the Act) during the Registrant's second fiscal half year that have materially affected, or are reasonably likely to materially affect, the Registrant's internal control over financial reporting.

ITEM 12. EXHIBITS.

- (a) (1) ANY CODE OF ETHICS, OR AMENDMENTS THERETO, THAT IS THE SUBJECT OF DISCLOSURE REQUIRED BY ITEM 2, TO THE EXTENT THAT THE REGISTRANT INTENDS TO SATISFY THE ITEM 2 REQUIREMENTS THROUGH THE FILING OF AN EXHIBIT.

None.

- (a) (2) A SEPARATE CERTIFICATION FOR EACH PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER OF THE REGISTRANT AS REQUIRED BY RULE 30a-2 UNDER THE ACT.

Attached hereto as EX-99.31.1

Attached hereto as EX-99.31.2

- (a) (3) ANY WRITTEN SOLICITATION TO PURCHASE SECURITIES UNDER RULE 23c-1 UNDER THE ACT (17 CFR 270.23c-1) SENT OR GIVEN DURING THE PERIOD COVERED BY THE REPORT BY OR ON BEHALF OF THE REGISTRANT TO 10 OR MORE PERSONS.

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Not applicable for this filing.

(b) CERTIFICATIONS PURSUANT TO RULE 302-2(b) UNDER THE ACT.

Attached hereto as EX-99.32

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant): MassMutual Participation Investors

By: /s/ Michael L. Klofas

Michael L. Klofas, President

Date: March 7, 2011

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

By: /s/ Michael L. Klofas

Michael L. Klofas, President

Date: March 7, 2011

By: /s/ James M. Roy

James M. Roy, Vice President and
Chief Financial Officer

Date: March 7, 2011
